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Poignet, Philippe	LIRMM UMR 5506 CNRS UM2
Geny, Christian	Centre Hospitalier Univ. de Montpellier

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Courreges, Fabien	Limoges Univ.
Edkie, Ankur	Indian Inst. of Tech.
Poisson, Gérard	Univ. d'Orléans
Vieyres, Pierre	Lab. Vision et Robotique

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Bogatyrenko, Evgeniya	Univ. Karlsruhe (TH)
Hanebeck, Uwe D.	Univ. Karlsruhe (TH)
Szabó, Gábor	Heidelberg Univ. Hospital

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Nakano, Takuma	Tohoku Univ.
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Negoro, Makoto	Fujita Health Univ.
Arai, Fumihito	Tohoku Univ.

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Chair: Li, Hongyi	Shenyang Inst. of Automation, Chinese Acad. of Sciences
Co-Chair: Hayashi, Takeshi	Aichi Inst. of Tech.

09:25-09:45	MoIT4.1

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Hayashi, Takeshi	Aichi Inst. of Tech.
Asano, Fumihiko	Japan Advanced Inst. of Science and Tech.
Luo, Zhi-Wei	Kobe Univ.
Nagano, Akinori	Kobe Univ.
Kaneko, Kazuaki	Aichi Inst. of Tech.
Atsuo, Kato	Aichi Inst. of Tech.

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Aleotti, Jacopo	Univ. of Parma
Caselli, Stefano	Univ. of Parma

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Lu, Shouyin	Shandong Jianzhu Univ.
Li, Yanping	Shandong Jianzhu Univ.
Zhang, Tao	Shandong Jianzhu Univ.

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Tang, Hao	City Univ. of New York
Zhu, Zhigang	CUNY - City Coll.
Xiao, Jizhong	City Coll. of New York

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Chair: Fan, Zhun	Tech. Univ. of Denmark
Co-Chair: Ye, Cang	Univ. of Arkansas at Little Rock

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Meier, John L.	Washington Univ. in St. Louis
Bayazit, Burchan	Washington Univ. in St. Louis

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Mehta, Vimal	Oklahoma State Univ.
Sheng, Weihua	Oklahoma State Univ.
Chen, Tianzhou	Zhejiang Univ.
Shi, Quan	Michigan State Univ.

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Liu, Ming	Tongji Univ. and Autonomous System Lab. of ETH Zurich
Scaramuzza, Davide	ETH Zurich
Pradalier, Cedric	ETH Zurich
Siegwart, Roland	ETH Zurich
Chen, Qijun	Tongji Univ.

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Hombal, Vadiraj	Rensselaer Pol. Inst.
Sanderson, Arthur	Rensselaer Pol. Inst.
Blidberg, D. Richard	Autonomous Undersea Systems Inst.

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Chair: Berns, Karsten	Univ. of Kaiserslautern
Co-Chair: Choi, Hyouk Ryeol	Sungkyunkwan Univ.

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Tran, Duc Trong	SungKyunKwan Univ.
Koo, Ig Mo	Sung Kyun Kwan Univ.
Vo, Gia Loc	Sungkyunkwan Univ.
Roh, Se-gon	Sungkyunkwan Univ.
Park, Sangdeok	Korea Inst. of Industrial Tech.
Moon, Hyungpil	SungKyunKwan Univ.
Choi, Hyouk Ryeol	Sungkyunkwan Univ.

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Bae, Ji-Hun	Korea Inst. of Science and Tech.
Oh, Yonghwan	KIST
Chong, Nak Young	Japan Advanced Inst. of Sci. and Tech.
You, Bum Jae	KIST

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Nurzaman, Surya G.	Osaka Univ.
Matsumoto, Yoshio	Osaka Univ.
Nakamura, Yutaka	Osaka Univ.
Koizumi, Satoshi	Osaka Univ.
Ishiguro, Hiroshi	Osaka Univ.

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Blank, Sebastian	Univ. of Kaiserslautern
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Luksch, Tobias	Univ. of Kaiserslautern
Berns, Karsten	Univ. of Kaiserslautern

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Co-Chair: Buchli, Jonas	Univ. of Southern California

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Hutter, Marco	ETH Zurich
Remy, C. David	ETH Zurich
Siegwart, Roland	ETH Zurich

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Arslan, Omur	Bilkent Univ.
Saranli, Uluc	Bilkent Univ.
Morgul, Omer	Bilkent Univ.

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Kalakrishnan, Mrinal	Univ. of Southern California
Buchli, Jonas	Univ. of Southern California
Pastor, Peter	Univ. of Southern California
Schaal, Stefan	Univ. of Southern California

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Asano, Fumihiko	Japan Advanced Inst. of Science and Tech.

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Chair: Nakadai, Kazuhiro	Honda Res. Inst. Japan Co., Ltd.
Co-Chair: Okuno, Hiroshi G.	Kyoto Univ.

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Hu, Jwu-Sheng	National Chiao Tung Univ.
Yang, ChiaHsing	National Chiao Tung Univ.
Wang, Cheng-Kang	National Chiao Tung Univ.

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Rodemann, Tobias	Honda Res. Inst. Europe
Joublin, Frank	Honda Res. Inst. Europe
Goerick, Christian	Honda Res. Inst. Europe GmbH

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Toshima, Iwaki	NTT Communication Science Lab.
Aoki, Shigeaki	Kanazawa Inst. of Tech.

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Ince, Gokhan	Honda Res. Inst. Japan Co., Ltd.
Nakadai, Kazuhiro	Honda Res. Inst. Japan Co., Ltd.
Rodemann, Tobias	Honda Res. Inst. Europe
Hasegawa, Yuji	Honda Res. Inst. Japan Co., Ltd.
Tsujino, Hiroshi	Honda Res. Inst. Co., Ltd.
Imura, Jun-ichi	Tokyo Inst. of Tech.

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Chair: Garcia, Rafael	Univ. of Girona
Co-Chair: Hover, Franz	MIT

09:25-09:45	MoIT9.1

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Nicosevici, Tudor	Univ. of Girona
Garcia, Rafael	Univ. of Girona

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Hover, Franz	MIT

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Barkby, Stephen	Univ. of Sydney
Williams, Stefan Bernard	Univ. of Sydney
Pizarro, Oscar	Australian Centre for Field Robotics
Jakuba, Michael	Univ. of Sydney

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Parodi, Olivier	Univ. of Montpellier 2 - CNRS - LIRMM
Lapierre, Lionel	LIRMM
Jouvencel, Bruno	Univ. of Montpellier 2 - CNRS UMR5506 -LIRMM

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Chair: Kosa, Gabor	ETH Zurich
Co-Chair: Tungadi, Fredy	Monash Univ.

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Battaglia, Martin	CNRS
Blanchet, Laurent	Ec. Normal Supérieure
Kheddar, Abderrahmane	CNRS
Kajita, Shuuji	National Inst. of AIST
Yokoi, Kazuhito	National Inst. of AIST

09:45-10:05	MoIT10.2

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Bolopion, Aude	Univ. Pierre et Marie-Curie, Paris 6
Cagneau, Barthélemy	Univ. Pierre et Marie Curie, Paris6
Redon, Stephane	INRIA
Régnier, Stéphane	Univ. Paris 6

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Schneider, Alexander	Univ. of Freiburg
Sturm, Jürgen	Univ. of Freiburg
Stachniss, Cyrill	Univ. of Freiburg
Reisert, Marco	Univ. of Freiburg
Burkhardt, Hans	Inst. for Computer Science, Albert-Ludwigs-Univ.
Burgard, Wolfram	Univ. of Freiburg

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Kosa, Gabor	ETH Zurich
Hoever, Raphael	ETH Zurich
Szczerba, Dominik	ITIS Foundation
Szekely, Gabor	ETH Zurich
Harders, Matthias	ETH Zurich

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Chair: Bingham, Brian	Univ. of Hawaii
Co-Chair: Hirose, Shigeo	Tokyo Inst. of Tech.

09:25-09:45	MoIT11.1

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Hernandez, Emili	Univ. de Girona
Ridao, Pere	Univ. de Girona
Ribas, David	Univ. de Girona
Mallios, Angelos	Univ. de Girona

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Bingham, Brian	Univ. of Hawaii

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Huang, Ya-Wen	Tokyo Inst. of Tech.
Ueda, Koji	Tokyo Insitute of Tech.
Itoh, Kazuhiro	Hitachi Construction Machinery Co., Ltd. Tsuchiura Works
Fukushima, Edwardo F.	Tokyo Inst. of Tech.
Hirose, Shigeo	Tokyo Inst. of Tech.

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Um, Dugan	Texas A&M Univ. - CC
Chandra Putra, Handi	Texas State Univ.

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Chair: Vendittelli, Marilena	Univ. di Roma "La Sapienza"
Co-Chair: Qiao, Hong	Chinese Acad. of Sciences

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Sakai, Suguru	The Univ. of Electro-Communications
Xu, Chunquan	The Univ. of Electro-Communications
Ming, Aiguo	The Univ. of Electro-Communications
Shimojo, Makoto	Univ. of Electro-COmmunications

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Liu, Chuankai	Chinese Acad. of Science
Qiao, Hong	Chinese Acad. of Sciences
Zhang, Bo	Acad. of Mathematics ad Systems Science, Chinese Acad. of Sc

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Lee, Sungcheul	Seoul National Univ.
In, Woosung	Seoul National Univ.
Kim, Sitai	Korea Air Force Acad.
Jeong, Jay	Kookmin Univ.
Kim, Jongwon	Seoul National Univ.

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Oriolo, Giuseppe	Univ. di Roma "La Sapienza"
Vendittelli, Marilena	Univ. di Roma "La Sapienza"

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Chair: Doignon, Christophe	Univ. of Strasbourg
Co-Chair: Andrade-Cetto, Juan	CSIC-UPC

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Ortega Jimenez, Agustin Alberto	CSIC-UPC
Dias, Bruno	Inst. Superior Técnico - Inst. for Systems and Robotics
Teniente Avilés, Ernesto Homar	CSIC-UPC
Bernardino, Alexandre	Inst. Superior Técnico - Inst. for Systems and Robotics
Gaspar, Jose	Inst. Superior Técnico - Inst. for Systems and Robotics
Andrade-Cetto, Juan	CSIC-UPC

09:45-10:05 — MoIT13.2

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Strobl, Klaus H.	German Aerospace Center (DLR)
Sepp, Wolfgang	German Aerospace Center (DLR)
Hirzinger, Gerd	German Aerospace Center (DLR)

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Wang, Qizhi	Beijing Jiaotong Univ.
Cheng, Xinyu	Beijing Jiaotong Univ.

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Albitar, Chadi	Univ. of Strasbourg
Doignon, Christophe	Univ. of Strasbourg
Graebling, Pierre	Univ. Louis Pasteur - Strasbourg (ULP)

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Chair: Zani, Paolo	Univ. of Parma, Italy
Co-Chair: Tan, Jindong	Michigan Tech. Univ.

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Clerentin, Arnaud	Univ. of Picardie
Delahoche, Laurent	Univ. de Picardie - IUT Amiens
Marhic, Bruno	IUT Amiens
Delafosse, Melanie	LTI
Allart, Benjamin	IUT Amiens

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de Charette, Raoul	Ec. des Mines de Paris
Nashashibi, Fawzi	Ec. des Mines de Paris

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Seo, Young-Woo	Carnegie Mellon Univ.
Urmson, Chris	Carnegie Mellon Univ.

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Zani, Paolo	Univ. of Parma, Italy
Felisa, Mirko	Univ. of Parma, Italy

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Chair: Agrawal, Sunil	Univ. of Delaware
Co-Chair: Matsuura, Daisuke	The Ohio State Univ.

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Matsuura, Daisuke	The Ohio State Univ.
Iwatsuki, Nobuyuki	Tokyo Inst. of Tech.
Okada, Masafumi	Tokyo Inst. of Tech.

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Burbidge, Robert	Aberystwyth Univ.
Walker, Joanne	Aberystwyth Univ.
Wilson, Myra S.	Aberywtwyth Univ.

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Koganezawa, Koichi	Tokai Univ.
Yamashita, Hiroshi	Tokai Univ.

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Yang, Ruoting	Washington Univ. in St. Louis
Bewick, Sharon	The Univ. of Tennessee, Knoxville
Zhang, Mingjun	Univ. of Tennessee
Hamel, William R.	Univ. of Tennessee
Tarn, T. J.	Washington Univ.

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Chair: Vorst, Philipp	Univ. of Tübingen
Co-Chair: Rekleitis, Ioannis	McGill Univ.

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Sun, Yi	The City Coll. of New York
Xiao, Jizhong	City Coll. of New York
Cabrera-Mora, Flavio	The City Univ. of New York

09:45-10:05	MoIT16.2

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Hochdorfer, Siegfried	Univ. of Applied Sciences Ulm
Schlegel, Christian	Univ. of Applied Sciences Ulm

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Tungadi, Fredy	Monash Univ.
Kleeman, Lindsay	Monash Univ.

10:25-10:45	MoIT16.4

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Vorst, Philipp	Univ. of Tübingen
Zell, Andreas	Univ. of Tübingen

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Chair: Lee, Dongjun	Univ. of Tennessee-Knoxville
Co-Chair: Tsubouchi, Takashi	Sys. and Info. Eng., U of Tsukuba

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Hong, Dennis	Virginia Tech.
Jeans, J. Blake	Robotics and Mechanisms Lab. Virginia Tech.
Ren, Ping	Virginia Tech.

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Hoffmann, Gabriel	Palo Alto Res. Center (PARC)
Waslander, Steven Lake	Univ. of Waterloo
Vitus, Michael	Stanford Univ.
Huang, Haomiao	Stanford Univ.
Gillula, Jeremy	Stanford Univ.
Pradeep, Vijay	Willow Garage
Tomlin, Claire	UC Berkeley

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Green, Keith Evan	Clemson Univ.
Walker, Ian	Clemson Univ.
Gugerty, Leo	Clemson Univ.
Witte, James	Clemson Univ.
Houayek, Henrique	Clemson Univ.
Kwoka, Martha	Clemson Univ.
Johnson, Joe	Clemson Univ.
Teja, Krishna	Clemson Univ.
Nick, Kuntzi	Clemson Univ.

09:25-10:45	MoIT18.4

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Steltz, Erik	iRobot
Mozeika, Annan	iRobot Corp.
Jaeger, Heinrich	Univ. of Chicago

09:25-10:45	MoIT18.5

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Pratt, Jerry	Inst. for Human and Machine Cognition
Krupp, Ben	Yobotics, Inc.
Ragusila, Victor	Inst. for Human and Machine Cognition

Rebula, John	Univ. of Michigan
Koolen, Twan	Inst. for Human and Machine Cognition
van Nieuwenhuizen, Niels	Inst. for Human and Machine Cognition
Shake, Christopher	Inst. for Human and Machine Cognition
Craig, Travis	Inst. for Human and Machine Cognition
Taylor, John	Inst. for Human and Machine Cognition
Watkins, Greg	Inst. for Human and Machine Cognition
Neuhaus, Peter	Inst. for Human and Machine Cognition
Johnson, Matthew	Inst. for Human & Machine Cognition
Shooter, Steve	Inst. for Human and Machine Cognition
Buffinton, Keith	Bucknell Univ.
Canas, Fabian	Inistute for Human and Machine Cognition
Carff, John	IHMC
Howell, William	IHMC

09:25-10:45   MoIT18.6

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| Lewinger, William | Case Western Res. Univ. |
| Quinn, Roger, D. | Case Western Res. Univ. |

09:25-10:45   MoIT18.7

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| Yu, Chih-Han | Harvard Univ. |
| Nagpal, Radhika | Harvard Univ. |

09:25-10:45   MoIT18.8

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| Escande, Adrien | CEA |
| Kheddar, Abderrahmane | CNRS |

09:25-10:45   MoIT18.9

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| Birkmeyer, Paul | Univ. of California, Berkeley |
| Fearing, Ronald | Univ. of California at Berkeley |

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| Ben-Tzvi, Pinhas | The George Washington Univ. |

09:25-10:45   MoIT18.11

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| Shi, Hans Fuhan | Simon Fraser Univ. |
| Payandeh, Shahram | Simon Fraser Univ. |

09:25-10:45   MoIT18.12

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Hu, Jwu-Sheng	National Chiao Tung Univ.
Wang, Jyun-Ji	National Chiao Tung Univ.
Sun, Guan-Cyun	National Chiao Tung Univ.

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| Martel, Sylvain | Ec. Pol. de Montreal (EPM) |
| Mohammadi, Mahmood | Ec. Pol. de Montreal (EPM) |

MoIT1   Grand A
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| Chair: Khatib, Oussama | Stanford Univ. |
| Co-Chair: Escande, Adrien | CEA |

11:00-11:20   MoIIT1.1

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Arisumi, Hitoshi	National Inst. of AIST
Chardonnet, Jean-Remy	CNRS - AIST
Yokoi, Kazuhito	National Inst. of AIST

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| Escande, Adrien | CEA |
| Kheddar, Abderrahmane | CNRS |

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Lengagne, Sebastien	LIRMM
Ramdani, Nacim	INRIA Sophia Antipolis - Méditerranée
Fraisse, Philippe	LIRMM

12:00-12:20   MoIIT1.4

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| Tsujita, Teppei | Tohoku Univ. |

| Konno, Atsushi | Tohoku Univ. |
| Uchiyama, Masaru | Tohoku Univ. |

12:20-12:40   MoIIT1.5

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Sentis, Luis	Stanford Univ.
Park, Jaeheung	Stanford Univ.
Khatib, Oussama	Stanford Univ.

MoIIT2   Grand B
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| Chair: Peer, Angelika | Tech. Univ. München |
| Co-Chair: Sanfeliu, Alberto | Univ. Pol. de Cataluyna |

11:00-11:20   MoIIT2.1

Efficiency Analysis in a Collaborative Task with Reciprocal Haptic Feedback, pp. 461-466.

Groten, Raphaela	Tech. Univ. München
Feth, Daniela	Tech. Univ. München
Klatzky, Roberta	Carnegie Mellon
Peer, Angelika	Tech. Univ. München
Buss, Martin	Tech. Univ. München

11:20-11:40   MoIIT2.2

Robot Motion Control Using Mechanical Load Adjuster with Motion Measurement Interface for Human-Robot Cooperation, pp. 467-472.

Tsumugiwa, Toru	Doshisha Univ.
Watanabe, Yuki	Doshisha Univ.
Yokogawa, Ryuichi	Doshisha Univ.

11:40-12:00   MoIIT2.3

An Intuitive Inexpensive Interface for Robots Using the Nintendo Wii Remote, pp. 473-479. Attachment

| Olufs, Sven | Vienna Univ. of Tech. |
| Vincze, Markus | Vienna Univ. of Tech. |

12:00-12:20   MoIIT2.4

Ergonomics of Exoskeletons: Subjective Performance Metrics, pp. 480-485.

| Schiele, Andre | European Space Agency |

12:20-12:40   MoIIT2.5

Discrete Time Motion Model for Guiding People in Urban Areas Using Multiple Robots, pp. 486-491. Attachment

Garrell, Anais	UPC-CSIC
Sanfeliu, Alberto	Univ. Pol. de Cataluyna
Moreno-Noguer, Francesc	CSIC

MoIIT3   Grand C
Medical Robotics II (Regular Sessions)

| Chair: Solis, Jorge | Waseda Univ. |
| Co-Chair: Tobergte, Andreas | German Aerospace Centre |

11:00-11:20   MoIIT3.1

Robust Multi Sensor Pose Estimation for Medical Applications, pp. 492-497.

| Tobergte, Andreas | German Aerospace Centre |
| Pomarlan, Mihai | German Aerospace Centre |

11:20-11:40   MoIIT3.2

Small Bowel Tumor Detection for Wireless Capsule Endoscopy Images Using Textural Features and Support Vector Machine, pp. 498-503.

| Li, Baopu | Chinese Univ. of Hong Kong |
| Meng, Max | The Chinese Univ. of Hong Kong |

11:40-12:00   MoIIT3.3

Placement Quality in Structured Light Systems, pp. 504-509.

| Bird, Nathaniel | Univ. of Minnesota |
| Papanikolopoulos, Nikos | Univ. of Minnesota |

12:00-12:20   MoIIT3.4

Development of Assisted-Robotic System Designed to Measure the Wave Intensity with an Ultrasonic Diagnostic Device, pp. 510-515.
Attachment

Nakadate, Ryu	Takanishi Lab. Faculty of Science and Engineering, Waseda
Uda, Hisato	Waseda Univ.
Hirano, Horoaki	Waseda Univ.
Solis, Jorge	Waseda Univ.
Takanishi, Atsuo	Waseda Univ.
Minagawa, Eiichi	Aloka Co. Ltd.
Sugawara, Motoaki	Himeji Dokkyo Univ.
Niki, Kiyomi	Musashi Inst. of Tech.

12:20-12:40   MoIIT3.5

EMG Pattern Recognition and Grasping Force Estimation: Improvement to the Myocontrol of Multi-DOF Prosthetic Hands, pp. 516-521.

Yang, Dapeng	Harbin Inst. of Tech.
Zhao, Jingdong	Harbin Inst. of Tech.
Gu, Yikun	Harbin Inst. of Tech.

Jiang, Li   Harbin Inst. of Tech.
Liu, Hong   DLR

MoIIT4	Grand F
Microrobots (Regular Sessions)	
Chair: Arai, Fumihito	Tohoku Univ.
Co-Chair: Martel, Sylvain	Ec. Pol. de Montreal (EPM)

11:00-11:20   MoIIT4.1

Active Size Controlled On-Chip Droplet Dispensing by Magnetically Driven Microtool, pp. 522-527.

Yamanishi, Yoko	Tohoku Univ.
Kihara, Yuki	Tohoku Univ.
Sakuma, Shinya	Tohoku Univ.
Arai, Fumihito	Tohoku Univ.

11:20-11:40   MoIIT4.2

Microparticle Manipulation Using Multiple Untethered Magnetic Micro-Robots on an Electrostatic Surface, pp. 528-533. Attachment

Floyd, Steven	Carnegie Mellon Univ.
Pawashe, Chytra	Carnegie Mellon Univ.
Sitti, Metin	Carnegie Mellon Univ.

11:40-12:00   MoIIT4.3

Nonlinear Modeling and Robust Controller-Observer for a Magnetic Microrobot in a Fluidic Environment Using MRI Gradients, pp. 534-539.

Arcese, Laurent	Univ. of Orleans
Fruchard, Matthieu	Univ. of Orleans
Ferreira, Antoine	Univ. of Orléans

12:00-12:20   MoIIT4.4

Three-Dimensional Electromagnetic Actuation System for Intravascular Locomotive Microrobot, pp. 540-545.

Chungseon, Yu	Chonnam National Univ.
Choi, Hyunchul	Chonnam National Univ.
Park, Jongoh	Chonnam National Univ.
Park, Sukho	Chonnam National Univ.

12:20-12:40   MoIIT4.5

Hydrogel Encapsulated Magnetic Nanoparticles As Hyperthermic Actuators for Microrobots Designed to Operate in the Vascular Network, pp. 546-551.

Tabatabaei, Seyed Nasr	Ec. Pol. de Montreal
Lapointe, Jacinthe	Ec. Pol. de Montreal
Martel, Sylvain	Ec. Pol. de Montreal (EPM)

MoIIT5	Grand G
Sensor Fusion II (Regular Sessions)	
Chair: Liu, Yunhui	Chinese Univ. of Hong Kong
Co-Chair: Roehrig, Christof	Univ. of Appl. Sci. Dortmund

11:00-11:20   MoIIT5.1

Indoor Location Tracking in Non-Line-Of-Sight Environments Using a IEEE 802.15.4a Wireless Network, pp. 552-557. Attachment

Roehrig, Christof	Univ. of Appl. Sci. Dortmund
Müller, Marcel	Dortmund Univ. of Applied Sciences and Arts

11:20-11:40   MoIIT5.2

A Rigid Body Attitude Estimation for Bio-Logging Application: A Quaternion-Based Nonlinear Filter Approach, pp. 558-563.

Fourati, Hassen	Univ. Reims Champagne Ardenne
Manamanni, Noureddine	Univ. of Reims Champagne Ardenne
Afilal, Lissan	Univ. de Reims Champagne Ardenne
Handrich, Yves	Univ. Louis Pasteur

11:40-12:00   MoIIT5.3

Tracking Point or Diffusing Targets Using Mobile Sensor Networks under Sensing Noises, pp. 564-569.

Li, Yingying	Chinese Unversity of Hong Kong
Liu, Yunhui	Chinese Univ. of Hong Kong

12:00-12:20   MoIIT5.4

A Statistical Approach to Gas Distribution Modelling with Mobile Robots - the Kernel DM+V Algorithm, pp. 570-576.

Lilienthal, Achim, J.	Örebro Univ.
Reggente, Matteo	AASS Res. Center - Learning Systems Lab. -OrebroUniversity
Trincavelli, Marco	Örebro Univ.
Blanco, Jose-Luis	Univ. of Malaga
Gonzalez, Javier	Univ. of Malaga

12:20-12:40   MoIIT5.5

Hybrid Vision/Force Feedback Control for Pushing Micro-Objects (I), pp. 577-582.

Khan, Shahzad	Delft Univ. of Tech. 3mE Faculty
Sabanovic, Asif	Sabanci Univ.

MoIIT6	Grand H
Biologically-Inspired Robotic Devices (Regular Sessions)	
Chair: Tan, Xiaobo	Michigan State Univ.

Co-Chair: Nakamura, Taro	Chuo Univ.
11:00-11:20	MoIIT6.1

A Miniature Jumping Robot with Self-Recovery Capabilities, pp. 583-588. Attachment

Kovac, Mirko	EPFL
Schlegel, Manuel	Ec. Pol. Federal, Lausanne
Zufferey, Jean-Christophe	EPFL
Floreano, Dario	Ec. Pol. Federal, Lausanne
11:20-11:40	MoIIT6.2

Concept Evaluation of a New Biologically Inspired Robot LittleApe, pp. 589-594.

Kuehn, Daniel	German Res. Center for Artificial Intelligence
Roemmermann, Malte	Robotics Group, Univ. of Bremen, Robert-Hooke-Str. 5,
Sauthoff, Nina	Hochschule Bremen
Grimminger, Felix	German Res. Center for Artificial Intelligence
Kirchner, Frank	Univ. of Bremen
11:40-12:00	MoIIT6.3

Analysis and Implementation of an Artificial Homeostatic Hormone System: A First Case Study in Robotic Hardware, pp. 595-600.

Stradner, Jürgen	Karl-Franzens Univ.
Hamann, Heiko	Univ. of Graz
Schmickl, Thomas	Univ. of Graz
Crailsheim, Karl	Univ. of Graz
12:00-12:20	MoIIT6.4

Adapting to Non-Uniform Resource Distributions in Robotic Swarm Foraging through Work-Site Relocation, pp. 601-606.

Lein, Adam	Autonomy Lab. Simon Fraser Univ.
Vaughan, Richard	Simon Fraser Univ.
12:20-12:40	MoIIT6.5

Development of a 6-DOF Manipulator Actuated with a Straight-Fiber-Type Artificial Muscle, pp. 607-612.

Maeda, Hiroyuki	Chuo Univ.
Nakamura, Taro	Chuo Univ.
12:20-12:40	MoIIT6.6

A Design of the Electromagnetic Driver for the "Internal Force-Static Friction" Capsubot, pp. 613-617.

Su, Gang	Shenyang Inst. of Automation, Chinese Acad.
Zhang, Cheng	Shenyang Inst. of Automation, Chinese Acad. of Sciences
Tan, Renjia	Shenyang Inst. of Automation, Chinese Acad. ofSciences
Li, Hongyi	Shenyang Inst. of Automation, Chinese Acad. of Sciences

MoIIT7	Mills 1
Legged Robots II (Regular Sessions)	
Chair: Quinn, Roger, D.	Case Western Res. Univ.
Co-Chair: Ma, Shugen	Ritsumeikan Univ.
11:00-11:20	MoIIT7.1

High-Step Climbing by a Crawler Robot DIR-2 - Realization of Automatic Climbing Motion -, pp. 618-624.

Kamimura, Akiya	National Inst. ofAdvancedIndustrialScienceandTechnology
Kurokawa, Haruhisa	Inst. of Advanced Industrial Sci & Tech.
11:20-11:40	MoIIT7.2

Design of a Wall-Climbing Hexapod for Advanced Maneuvers, pp. 625-630.

Palmer III, Luther R.	Case Western Res. Univ.
Diller, Eric D.	Case Western Res. Univ.
Quinn, Roger, D.	Case Western Res. Univ.
11:40-12:00	MoIIT7.3

A Self-Exciting Controller for High-Speed Vertical Running, pp. 631-638. Attachment

Lynch, Goran	Univ. of Pennsylvania
Clark, Jonathan	Florida State Univ.
Koditschek, Daniel	Univ. of Pennsylvania
12:00-12:20	MoIIT7.4

A Modular Crawler-Driven Robot: Mechanical Design and Preliminary Experiments, pp. 639-644.

Quan, Qiquan	Ritsumeikan Univ.
Ma, Shugen	Ritsumeikan Univ.
12:20-12:40	MoIIT7.5

Compliant Footpad Design Analysis for a Bio-Inspired Quadruped Amphibious Robot, pp. 645-651.

Park, Hyun Soo	Carnegie Mellon Univ.
Sitti, Metin	Carnegie Mellon Univ.

MoIIT8	Mills 2
Robot Audition II (Invited Sessions)	
Chair: Nakadai, Kazuhiro	Honda Res. Inst. Japan Co., Ltd.
Co-Chair: Okuno, Hiroshi G.	Kyoto Univ.
11:00-11:20	MoIIT8.1

Audio/Video Fusion for Objects Recognition (I), pp. 652-657.

Lachčze, Loic	Univ. Pierre et Marie Curie

Guo, Yan	Paris 6 Univ.
Benosman, Ryad	UPMC/ISIR
Gas, Bruno	Univ. Pierre et Marie Curie
Couverture, Charlie	Univ. Pierre et Marie Curie

11:20-11:40   MoIIT8.2

Semi-Blind Suppression of Internal Noise for Hands-Free Robot Spoken Dialog System (I), pp. 658-663.

Even, Jani	Nara Inst. of Science and Tech.
Sawada, Hiroshi	Nara Inst. of Science and Tech.
Saruwatari, Hiroshi	Nara Inst. of Sci. and Tech.
Kiyohiro Shikano, '	Nara Inst. of Science and Tech.

11:40-12:00   MoIIT8.3

Intelligent Sound Source Localization for Dynamic Environments (I), pp. 664-669.

Nakamura, Keisuke	Tokyo Inst. of Tech.
Nakadai, Kazuhiro	Honda Res. Inst. Japan Co., Ltd.
Asano, Futoshi	AIST
Hasegawa, Yuji	Honda Res. Inst. Japan Co., Ltd.
Tsujino, Hiroshi	Honda Res. Inst. Co., Ltd.

12:00-12:20   MoIIT8.4

Speaker Localization and Speech Extraction with the EAR Sensor (I), pp. 670-675.

Bonnal, Julien	CNRS; LAAS
Argentieri, Sylvain	Univ. Pierre et Marie Curie; Inst. des Systčmes Intellig
Dančs, Patrick	Univ. de Toulouse ; LAAS-CNRS ; UPS ; F-31077
Manhes, Jérôme	CNRS; LAAS

12:20-12:40   MoIIT8.5

Real-Time Sound Source Orientation Estimation Using a 96 Channel Microphone Array (I), pp. 676-683.

Nakajima, Hirofumi	Honda Res. Inst. Japan Co., Ltd.
Kikuchi, Keiko	Tokyo Denki Univ.
Daigo, Touru	Tokyo Denki Univ.
Kaneda, Yutaka	Tokyo Denki Univ.
Nakadai, Kazuhiro	Honda Res. Inst. Japan Co., Ltd.
Hasegawa, Yuji	Honda Res. Inst. Japan Co., Ltd.

MoIIT9   Mills 3

Autonomous Agents (Regular Sessions)

Chair: Wollherr, Dirk	Tech. Univ. München
Co-Chair: Goodrich, Michael A.	Brigham Young Univ.

11:00-11:20   MoIIT9.1

Optical Flow-Based Controller for Reactive and Relative Navigation Dedicated to a Four Rotor Rotorcraft, pp. 684-689. Attachment

Rondon, Eduardo	Heudiasyc UMR 6599. Univ. de Tech. de Compičgne
Fantoni, Isabelle	Univ. of Tech. of Compičgne
Sanchez, Anand	Univ. de Tech. de Compiegne
Sanahuja, Guillaume	Univ. de Tech. de Compičgne

11:20-11:40   MoIIT9.2

Mobile Robot Behavior Coordination Using Supervisory Control of Fuzzy Discrete Event Systems, pp. 690-695. Attachment

Jayasiri, Awantha	Memorial Univ. of Newfoundland
Mann, George K. I.	Memorial Univ. of Newfoundland
Gosine, Raymond G.	Memorial Univ. of Newfoundland

11:40-12:00   MoIIT9.3

System Interdependence Analysis for Autonomous Mobile Robots, pp. 696-701.

Rohrmüller, Florian	Tech. Univ. München
Lidoris, Georgios	Tech. Univ. München
Wollherr, Dirk	Tech. Univ. München
Buss, Martin	Tech. Univ. München

12:00-12:20   MoIIT9.4

Motion Based Communication Channels between Mobile Robots – a Novel Paradigm for Low Bandwidth Information Exchange, pp. 702-708.

Raghunathan, Dhananjay	Boston Univ.
Baillieul, John	Boston Univ.

12:20-12:40   MoIIT9.5

UAV Intelligent Path Planning for Wilderness Search and Rescue, pp. 709-714.

Lin, Lanny	Brigham Young Univ.
Goodrich, Michael A.	Brigham Young Univ.

MoIIT10   Mills 4

Industrial Applications (Regular Sessions)

Chair: Walker, Anthony John	Univ. of KwaZulu-Natal
Co-Chair: Mehrandezh, Mehran	Univ. of Regina

11:00-11:20   MoIIT10.1

An Automated Method to Calibrate Industrial Robot Joint Offset Using Virtual Line-Based Single-Point Constraint Approach, pp. 715-720.

Liu, Yong	Michigan State Univ.

Xi, Ning	Michigan State Univ.
Zhang, George	ABB Corp. Res. Center
Li, Xiongzi	ABB Inc.
Chen, Heping	ABB Inc.
Zhang, Chi	Michigan State Univ.
Jeffery, Michael	Michigan State Univ.
Fuhlbrigge, Thomas	ABB Inc.

11:20-11:40   MoIIT10.2

Windshield Shape Inspection Using Structured Light Patterns from Two Diffuse Planar Light Sources, pp. 721-726.

Xu, Jing	Michigan State Univ.
Xi, Ning	Michigan State Univ.
Zhang, Chi	Michigan State Univ.
Shi, Quan	Michigan State Univ.

11:40-12:00   MoIIT10.3

Flexible Process Integration for Mass Customisation Manufacturing Via Autonomous Mobile Payload Routing Platforms, pp. 727-732.

Walker, Anthony John	Univ. of KwaZulu-Natal
Bright, Glen	Univ. of KwaZulu Natal

12:00-12:20   MoIIT10.4

Dynamic Analysis and Human Analogous Control of a Pipe Crawling Robot, pp. 733-740. Attachment

Heidari, Amir	Univ. of Regina
Mehrandezh, Mehran	Univ. of Regina
Paranjape, Raman	Univ. of Regina
Najjaran, Homayoun	Univ. of British Columbia, Okanagan

12:20-12:40   MoIIT10.5

Implementation of a Foldable 3 DOF Master Device to Handle a Large Glass Plate, pp. 741-747. Attachment

Chung, Jaeheon	Hanayang Univ.
Seo, Jong Tae	Hanayang Univ.
Yi, Byung-Ju	Hanayang Univ.
Kim, Whee Kuk	Korea Univ.
Lee, Sang Heon	Samsung C&T Corp.

MoIIT11	Mills 5

Advanced Control Techniques in Micro/Nano Manipulation I (Invited Sessions)

Chair: Li, Yangmin	Univ. of Macau

11:00-11:20   MoIIT11.1

Apply Nonlinear Filter ESDS to Quantized Sensor Data (I), pp. 748-754.

Emaru, Takanori	Hokkaido Univ.
Sase, Ryou	Hokkaido Univ.
Hoshino, Yohei	Hokkaido Univ.
Kobayashi, Yukinori	Hokkaido Univ.

11:20-11:40   MoIIT11.2

Global Sliding Mode-Based Tracking Control of a Piezo-Driven XY Micropositioning Stage with Unmodeled Hysteresis (I), pp. 755-760.

Xu, Qingsong	Univ. of Macau
Li, Yangmin	Univ. of Macau

11:40-12:00   MoIIT11.3

Achieving Three-Dimensional Automated Micromanipulation at the Scale of Several Micrometers with a Nanotip Gripper (I), pp. 761-766.

Xie, Hui	Univ. Pierre et Marie Curie-Paris VI/CNRS
Acosta, Juan Camilo	Univ. Pierre et Marie Curie
Régnier, Stéphane	Univ. Paris 6

12:00-12:20   MoIIT11.4

Characterization, Modeling and Robust Control of a Nonlinear 2-Dof Piezocantilever for Micromanipulation/microassembly (I), pp. 767-774.

Rakotondrabe, Micky	FEMTO-st Inst.
Agnus, Joël	FEMTO-st Inst.
Rabenorosoa, Kanty	FEMTO-st Inst.
Chaillet, Nicolas	Univ. of Franche-Comté / FEMTO-ST Inst.

12:20-12:40   MoIIT11.5

Active Vibration Control Based on a 3-DOF Dual Compliant Parallel Robot Using LQR Algorithm (I), pp. 775-780.

Yun, Yuan	Univ. of Macau
Li, Yangmin	Univ. of Macau

MoIIT12	Mills 6

Manipulator Motion Planning II (Regular Sessions)

Chair: Akella, Srinivas	Rensselaer Pol. Inst.
Co-Chair: Alterovitz, Ron	Univ. of North Carolina at Chapel Hill

11:00-11:20   MoIIT12.1

Automated Manipulation of Spherical Objects in Three Dimensions Using a Gimbaled Air Jet, pp. 781-786. Attachment

Becker, Aaron	Illinois
Sandheinrich, Robert	Univ. of Illinois at Urbana Champaign
Bretl, Timothy	Univ. of Illinois at Urbana-Champaign

11:20-11:40　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　MoIIT12.2

Complementarity-Based Dynamic Simulation for Kinodynamic Motion Planning, pp. 787-794.

　　Chakraborty, Nilanjan　　　　　　　　　　　　　　　　　　　　　Carnegie Mellon Univ.
　　Akella, Srinivas　　　　　　　　　　　　　　　　　　　　　　　Rensselaer Pol. Inst.
　　Trinkle, Jeff　　　　　　　　　　　　　　　　　　　　　　　　　Rensselaer Pol. Inst.

11:40-12:00　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　MoIIT12.3

Analysis of Human-Operated Motions and Trajectory Replanning for Kinematically Redundant Manipulators, pp. 795-800.

　　Mettin, Uwe　　　　　　　　　　　　　　　　　　　　　　　　　　Umeĺ Univ.
　　Westerberg, Simon　　　　　　　　　　　　　　　　　　　　　　　Umeĺ Univ.
　　Shiriaev, Anton　　　　　　　　　　　　　　　　　　　　　　　Umea Univ.
　　La Hera, Pedro　　　　　　　　　　　　　　　　　　　　　　　　Umeĺ Univ.

12:00-12:20　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　MoIIT12.4

Motion Planning for Active Cannulas, pp. 801-806.

　　Lyons, Lisa　　　　　　　　　　　　　　　　　Univ. of North Carolina at Chapel Hill
　　Webster, Robert　　　　　　　　　　　　　　　　　　　　　　　Vanderbilt Univ.
　　Alterovitz, Ron　　　　　　　　　　　　　　Univ. of North Carolina at Chapel Hill

12:20-12:40　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　MoIIT12.5

Compact Design of Work Cell with Robot Arm and Positioning Table under a Task Completion Time Constraint, pp. 807-813. Attachment

　　Gueta, Lounell B.　　　　　　　　　　　　　　　　　　　　　　Univ. of Tokyo
　　Chiba, Ryosuke　　　　　　　　　　　　　　　　　　　　　　　Univ. of Tokyo
　　Arai, Tamio　　　　　　　　　　　　　　　　　　　　　　　　　Univ. of Tokyo
　　Ueyama, Tsuyoshi　　　　　　　　　　　　　　　DENSO WAVE INCORPORATED
　　Ota, Jun　　　　　　　　　　　　　　　　　　　　　　　　　The Univ. of Tokyo

MoIIT13　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　Mills 7
Gait Pattern and Locomotion (Regular Sessions)

　　Chair: Choset, Howie　　　　　　　　　　　　　　　　　　　Carnegie Mellon Univ.
　　Co-Chair: Shibata, Tomohiro　　　　　　　　　　　Nara Inst. of Science and Tech.

11:00-11:20　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　MoIIT13.1

Compliant Quadruped Locomotion Over Rough Terrain, pp. 814-820. Attachment

　　Buchli, Jonas　　　　　　　　　　　　　　　　　Univ. of Southern California
　　Kalakrishnan, Mrinal　　　　　　　　　　　　　　Univ. of Southern California
　　Mistry, Michael　　　　　　　　　　　　　　　　Univ. of Southern California
　　Pastor, Peter　　　　　　　　　　　　　　　　　Univ. of Southern California
　　Schaal, Stefan　　　　　　　　　　　　　　　　Univ. of Southern California

11:20-11:40　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　MoIIT13.2

Behavior Planning of an Unmanned Ground Vehicle with Actively Articulated Suspension to Negotiate Geometric Obstacles, pp. 821-826.

　　Lim, Kyeong Bin　　　　　　　　　　　　　　　　　　　　　　　KAIST
　　Park, Sukhoon　　　　　　　　　　　　　　　　　　　　　　　　KAIST
　　Kim, Suengwoo　　　　　　　　　　　　　　　　　　　　　　　KAIST
　　Jung, Jae Muk　　　　　　　　　　　　　　　　　　　　　　　KAIST
　　Yoon, Yong-San　　　　　　　　　　　　　　　　　　　　　　　KAIST

11:40-12:00　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　MoIIT13.3

Acquisition of Energy-Ef_; Cient Bipedal Walking Using CPG-Based Reinforcement Learning, pp. 827-832.

　　Takita, Tomoyuki　　　　　　　　　　　　　　　Nara Inst. of Science and Tech.
　　Azuma, Yoshiyuki　　　　　　　　　　　　　　　Nara Inst. of Science and Tech.
　　Shibata, Tomohiro　　　　　　　　　　　　　　　Nara Inst. of Science and Tech.

12:00-12:20　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　MoIIT13.4

Gait Pattern Classification with Integrated Shoes, pp. 833-839.

　　Chen, Meng　　　　　　　　　　　　　　　　　The Chinese Univ. of Hong Kong
　　Yan, Jingyu　　　　　　　　　　　　　　　　　The Chinese Univ. of Hong Kong
　　Xu, Yangsheng　　　　　　　　　　　　　　　　The Chinese Univ. of Hong Kong

12:20-12:40　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　MoIIT13.5

Generating Gaits for Snake Robots by Annealed Chain Fitting and Keyframe Wave Extraction, pp. 840-845.

　　Hatton, Ross　　　　　　　　　　　　　　　　　　　　　Carnegie Mellon Univ.
　　Choset, Howie　　　　　　　　　　　　　　　　　　　　　Carnegie Mellon Univ.

MoIIT14　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　Mills 8
Applications of Visual Tracking (Regular Sessions)

　　Chair: Luo, Ren　　　　　　　　　　　　　　　　　　　　　National Taiwan Univ.
　　Co-Chair: Yamagishi, Hiroyuki　　　　　　Tokyo Metropolitan Coll. of Industrial Tech.

11:00-11:20　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　MoIIT14.1

Simultaneous People Tracking and Localization for Social Robots Using External Laser Range Finders, pp. 846-853. Attachment

　　Glas, Dylan F.　　　　　　　　　　　　　　　　　　　　　　　　ATR
　　Kanda, Takayuki　　　　　　　　　　　　　　　　　　　　　　　ATR
　　Ishiguro, Hiroshi　　　　　　　　　　　　　　　　　　　　　　Osaka Univ.
　　Hagita, Norihiro　　　　　　　　　　　　　　　　　　　　　　　ATR

11:20-11:40   MoIIT14.2

Distributive Target Tracking in Sensor Networks with a Markov Random Field Model, pp. 854-859.
    Shi, Lufeng   Michigan Tech. Univ.
    Tan, Jindong   Michigan Tech. Univ.

11:40-12:00   MoIIT14.3

Indoor Human Dynamic Localization and Tracking Based on Sensory Data Fusion Techniques, pp. 860-865.
    Luo, Ren   National Taiwan Univ.
    Chen, Ogst   National Chung Cheng Univ.

12:00-12:20   MoIIT14.4

Navigation Control for Tracking and Catching a Moving Target, pp. 866-871.
    Takagi, Fumiaki   Mitsubishi Electric Corp.
    Sakahara, Hiroto   Osaka Univ.
    Tabata, Tetsu   Osaka Univ.
    Yamagishi, Hiroyuki   Tokyo Metropolitan Coll. of Industrial Tech.
    Suzuki, Takashi   Osaka Univ.
    Miyazaki, Fumio   Graduate School of Engineering Science, Osaka Univ.

12:20-12:40   MoIIT14.5

Motion Clustering and Estimation with Conditional Random Fields, pp. 872-877.
    Tipaldi, Gian Diego   Univ. of Freiburg
    Ramos, Fabio   Univ. of Sydney

MoIIT15   Sterling 6
Robot Control II (Regular Sessions)
    Chair: Islam, Shafiqul   Carleton Univ.
    Co-Chair: Padois, Vincent   Univ. Pierre et Marie Curie

11:00-11:20   MoIIT15.1

Control of Redundant Robots Using Learned Models: An Operational Space Control Approach, pp. 878-885.
    Salaün, Camille   Univ. Pierre et Marie Curie (UMPC-paris6)
    Padois, Vincent   Univ. Pierre et Marie Curie
    Sigaud, Olivier   UPMC-Paris 6

11:20-11:40   MoIIT15.2

Novel Shared Control Architectures for Enhanced Users' Interaction in Haptic Training Simulation Systems, pp. 886-892.
    Khademian, Behzad   Queen's Univ.
    Hashtrudi-Zaad, Keyvan   Queen's Univ.

11:40-12:00   MoIIT15.3

A Learning Approach to Integration of Layers of a Hybrid Control Architecture, pp. 893-898.
    Powers, Matthew   Georgia Inst. of Tech.
    Balch, Tucker   Georgia Inst. of Tech.

12:00-12:20   MoIIT15.4

Adaptive Output Feedback Control for Robot Manipulators Using Lyapunov-Based Switching, pp. 899-905.
    Islam, Shafiqul   Carleton Univ.
    Liu, Peter X.   Carleton Univ.

12:20-12:40   MoIIT15.5

Real-Time Decentralized Neural Block Controller for a Robot Manipulator, pp. 906-911.
    Garcia, Ramon   Univ. Autonoma del Carmen
    Sanchez, Edgar N.   Centro de Investigacion y de Estudios Avanzados del Inst. Po
    Santibanez, Victor   Inst. Tecnologico de La Laguna
    Llama, Miguel   Inst. Tecnologico de la Laguna
    Bayro-Corrochano, Eduardo-Jose   CINVESTAV, Unidad Guadalajara

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MoIIT16   Sterling 7
SLAM with Vision (Regular Sessions)
    Chair: Christensen, Henrik Iskov   Georgia Inst. of Tech.
    Co-Chair: Kootstra, Gert   Univ. of Groningen

11:00-11:20   MoIIT16.1

Multi-Robot SLAM Using Ceiling Vision, pp. 912-917.
    Lee, Hee Seok   Seoul National Univ.
    Lee, KyoungMu   Seoul National Univ.

11:20-11:40   MoIIT16.2

Normalized Graph Cuts for Visual SLAM, pp. 918-923.
    Rogers, John   Georgia Inst. of Tech.
    Christensen, Henrik Iskov   Georgia Inst. of Tech.

11:40-12:00   MoIIT16.3

Multiswarm Particle Filter for Vision Based SLAM, pp. 924-929.
    Lee, Hee Seok   Seoul National Univ.
    Lee, KyoungMu   Seoul National Univ.

12:00-12:20   MoIIT16.4

Using Symmetrical Regions of Interest to Improve Visual SLAM, pp. 930-935.
    Kootstra, Gert   Univ. of Groningen

Schomaker, Lambert R.B.   Univ. of Groningen

12:20-12:40   MoIIT16.5

VPass: Algorithmic Compass Using Vanishing Points in Indoor Environment, pp. 936-941.

Doh, Nakju   Korea Univ.
Nam, Changjoo   Graduate Student
Lee, Keon Yong   Graduate Student
Yuen, Shang Li   Korea Univ.
Yeon, Soo Yong   Graduate Student
Lee, Young Hoon   Graduate Student

MoIIT18	Sterling 9
Poster (Regular Sessions)	

11:00-12:40   MoIIT18.1

Light Pattern Blur Estimation for Automatic Projector Focus Control of Structured Light 3D Camera, pp. 942-947. Attachment

Bui, Lam Quang   Sungkyunkwan Univ.
Lee, Sukhan   Sungkyunkwan Univ.

11:00-12:40   MoIIT18.2

Mobile Manipulation Using Tracks of a Tracked Mobile Robot, pp. 948-953. Attachment

Liu, Yugang   Ryerson Univ.
Liu, Guangjun   Ryerson Univ.

11:00-12:40   MoIIT18.3

Hybrid Control of Door-Opening by Modular Re-Configurable Robots, pp. 954-959.

Liu, Guangjun   Ryerson Univ.
Ahmad, Saleh   Ryerson Univ.
Ren, Lu   Univ. of Toronto

11:00-12:40   MoIIT18.4

Shape Control of a Deformable Object by Multiple Manipulators, pp. 960-965.

Das, Jadav   Vanderbilt Univ.
Sarkar, Nilanjan   Vanderbilt Univ.

11:00-12:40   MoIIT18.5

Measuring Tip and Side Forces of a Novel Catheter Prototype: A Feasibility Study, pp. 966-971.

Polygerinos, Panagiotis   King's Coll. London
Schaeffter, Tobias   King's Coll. London
Seneviratne, Lakmal   Kings Coll. London
Althoefer, Kaspar   Kings Coll. London

11:00-12:40   MoIIT18.6

Vibration Detection and Backlash Suppression in Machine Tools, pp. 972-977.

Mohammadiasl, Ebrahim   Mapna Turbine Manufacturing Co. (TUGA)

11:00-12:40   MoIIT18.7

Mobile Robot Path Planning with ·; 3–Splines Using Spatial-Fitness-Sharing Variable-Length Genetic Algorithm, pp. 978-983.

Wei, Jiun-Hau   Acad. Sinica
Liu, Jing-Sin   Acad. Sinica

11:00-12:40   MoIIT18.8

Human-Computer Interactive Gaming System---A Chinese Chess Robot, pp. 984-987.

Tong, Guofeng   Northeastern Univ.
Qu, Ying   Northeastern Univ.
Wang, Jiao   Northeastern Univ.
Cheng, Tong   Northeastern Univ.

11:00-12:40   MoIIT18.9

Iarw: An Incremental Path Planner Algorithm Based on Adaptive Random Walks, pp. 988-993.

Adorno, Bruno Vilhena   Lab. d'Informatique, robotique et microelectronique de Mo
Borges, Geovany Araujo   Univ. de Brasilia

11:00-12:40   MoIIT18.10

Real-Time Object Classi_; Cation in 3D Point Clouds Using Point Feature Histograms, pp. 994-1000.

Himmelsbach, Michael   Univ. of the Bundeswehr, Neubiberg
Luettel, Thorsten   Univ. of the Bundeswehr München
Wuensche, Hans J "Joe"   UniBw Munich

11:00-12:40   MoIIT18.11

BEST: A Real-Time Tracking Method for Scout Robot, pp. 1001-1006.

Chen, Diansheng   Beihang Univ.
Bai, Feng   Beihang Univ.
Li, Peng   Beihang Univ.
Wang, Tianmiao   Beihang Univ.

11:00-12:40   MoIIT18.12

LabRat(TM): Miniature Robot for Students, Researchers, and Hobbyists, pp. 1007-1012.

Robinette, Paul   Missouri Univ. of Science and Tech.
Meuth, Ryan   Missouri Univ. of Science and Tech.
Dolan, Ryanne   Univ. of Missouri
Wunsch, Donald C.   Missouri Univ. of Science and Tech.

11:00-12:40 MoIIT18.13

Cue-Based Equivalence Classes and Incremental Discrimination for Multiple-Cue Recognition of "Interactionable" Objects, pp. 1013-1018.

Aboutalib, Sarah — Carnegie Mellon Univ.
Veloso, Manuela — Carnegie Mellon Univ.

11:00-12:40 MoIIT18.14

Fuzzy Logic Vorticity Control of Ocillating Foil UUV, pp. 1019-1024.

Li, Wen — Beihang Unvivercity

11:00-12:40 MoIIT18.15

A Novel Motor Function Training Assisted System for Upper Limbs Rehabilitation, pp. 1025-1030.

Guo, Shuxiang — Kagawa Univ.
Song, Zhibin — Graduate School of Kagawa Univ. Japan

11:00-12:40 MoIIT18.16

Calibration of a Multimodal Head-Mounted Device for Ecological Assessment of Social Orienting Behavior in Children, pp. 1031-1036.

Schiavone, Giuseppina — Univ. Campus Bio-Medico
Campolo, Domenico — Campus Bio-Medico Univ.
Keller, Flavio — Univ. "Campus Bio-Medico"
Guglielmelli, Eugenio — Univ. Campus Bio-Medico

11:00-12:40 MoIIT18.17

Gait Generation for a Quadruped Robot Using Kalman Filter As Optimizer, pp. 1037-1042.

Souto, Rafael Fontes — State Univ. of Campinas - UNICAMP
Borges, Geovany Araujo — Univ. de Brasilia
Romariz, Alexandre Ricardo Soares — Univ. of Brasilia

11:00-12:40 MoIIT18.18

Noise-Driven 1-DOF Mobile Robot Inspired by Bacterial Motion Mechanism, pp. 1043-1048.

Shirai, Kazumichi — Osaka Univ.
Matsumoto, Yoshio — Osaka Univ.
Nakamura, Yutaka — Osaka Univ.
Koizumi, Satoshi — Osaka Univ.
Ishiguro, Hiroshi — Osaka Univ.

11:00-12:40 MoIIT18.19

A Thin-Layer Protocol for Utilizing Multiple Paths, pp. 1049-1054.

Cai, Yu — Michigan Tech. Univ.

11:00-12:40 MoIIT18.20

A Fluoroscopic-Based Navigation System for ACL Reconstruction Assisted by Robot, pp. 1055-1060.

Hu, Yan — Beihang Univ. Beijing, China. or Univ. of Jinan,Jinan
Hu, Lei — Beihang Univ.
Wang, Tianmiao — Beihang Univ.
Jun, Wei — Univ. of Jinan
Lei, Sun — Jishuitan Hospital
Liu, Wenyong — Beihang Univ.
Li, Wen — Beihang Unvivercity

11:00-12:40 MoIIT18.21

Virtual Entity Based Rapid Prototype Developing Framework (VE-RPDF) for Intelligent Robots, pp. 1061-1064.

Tong, Guofeng — Northeastern Univ.
Cheng, Tong — Northeastern Univ.
Liu, Miao — Beihang Univ.
Qu, Ying — Northeastern Univ.

11:00-12:40 MoIIT18.22

Motion Control Strategies for Improved Multi Robot Perception, pp. 1065-1070.

Aragues, Rosario — Univ. de Zaragoza, DIIS-I3A
Cortes, Jorge — Univ. of California, San Diego
Sagues, Carlos — Univ. de Zaragoza

MoIIT1 Grand A

Humanoid Robot Locomotion (Regular Sessions)

Chair: You, Bum Jae — KIST
Co-Chair: Ugurlu, Barkan — Yokohama National Univ.

14:00-14:20 MoIIT1.1

Toward Human-Like Walking Pattern Generator, pp. 1071-1077.

Harada, Kensuke — National Inst. of AIST
Miura, Kanako — National Inst. of Advanced Industrial ScienceandTechnology
Morisawa, Mitsuharu — National Inst. of AIST
Kaneko, Kenji — National Inst. of AIST
Nakaoka, Shin'ichiro — AIST
Kanehiro, Fumio — National Inst. of AIST
Tsuji, Tokuo — National Inst. of AIST
Kajita, Shuuji — National Inst. of AIST

14:20-14:40	MoIIIT1.2

A Walking Pattern Generation Method with Feedback and Feedforward Control for Humanoid Robots, pp. 1078-1083.

Hong, Seokmin	Univ. of Science and Tech.
Oh, Yonghwan	KIST
Kim, Doik	KIST
You, Bum Jae	KIST

14:40-15:00	MoIIIT1.3

Real Time Motion Generation and Control for Biped Robot -1st Report: Walking Gait Pattern Generation, pp. 1084-1091.

Takenaka, Toru	Honda R&D Co.,Ltd.
Matsumoto, Takashi	Honda R&D Co.,Ltd.
Yoshiike, Takahide	Honda R&D Co.,Ltd.

15:00-15:20	MoIIIT1.4

Real Time Motion Generation and Control for Biped Robot -2nd Report: Running Gait Pattern Generation, pp. 1092-1099.

Takenaka, Toru	Honda R&D Co.,Ltd.
Matsumoto, Takashi	Honda R&D Co.,Ltd.
Yoshiike, Takahide	Honda R&D Co.,Ltd.
Shirokura, Shinya	Honda R&D Co.,Ltd.

15:20-15:40	MoIIIT1.5

Real-Time Running and Jumping Pattern Generation for Bipedal Robots Based on ZMP and Euler's Equations, pp. 1100-1105.

Ugurlu, Barkan	Yokohama National Univ.
Kawamura, Atsuo	Yokohama National Univ.

MoIIIT2	Grand B

Rehabilitation Robotics I (Regular Sessions)

Chair: Kiguchi, Kazuo	Saga Univ.
Co-Chair: Dubey, Rajiv	Univ. of South Florida

14:00-14:20	MoIIIT2.1

HANDEXOS: Towards an Exoskeleton Device for the Rehabilitation of the Hand, pp. 1106-1111.

Chiri, Azzurra	Scuola Superiore Sant' Anna
Giovacchini, Francesco	Scuola Superiore Sant Anna
Vitiello, Nicola	Scuola Superiore Sant Anna
Cattin, Emanuele	Scuola Superiore Sant'Anna
Roccella, Stefano	Scuola Superiore Sant' Anna - ARTS Lab.
Vecchi, Fabrizio	Scuola Superiore Sant'Anna
Carrozza, Maria Chiara	Scuola Superiore Sant'Anna

14:20-14:40	MoIIIT2.2

Estimation of Foot Orientation with Respect to Ground for an above Knee Robotic Prosthesis, pp. 1112-1117.

Scandaroli, Glauco Garcia	Univ. of Brasília
Borges, Geovany Araujo	Univ. de Brasilia
Ishihara, João Yoshiyuki	Univ. de Brasilia
Terra, Marco Henrique	Univ. of Sao Paulo
da Rocha, Adson Ferreira	Univ. de Brasília
Nascimento, Francisco Assis de Oliveira	Univ. de Brasília

14:40-15:00	MoIIIT2.3

Navigating a Smart Wheelchair with a Brain-Computer Interface Interpreting Steady-State Visual Evoked Potentials, pp. 1118-1125.

Mandel, Christian	Univ. of Bremen
Lüth, Thorsten	Univ. of Bremen
Laue, Tim	Univ. Bremen
Röfer, Thomas	Deutsches Forschungszentrum für Künstliche Intelligenz
Gräser, Axel	Univ. of Bremen
Krieg-Brückner, Bernd	German Res. Center for Artificial Intelligence

15:00-15:20	MoIIIT2.4

SUEFUL-7: A 7DOF Upper-Limb Exoskeleton Robot with Muscle-Model-Oriented EMG-Based Control, pp. 1126-1131.

Gopura, Ranathunga Arachchilage Ruwan Chandra	Saga Univ.
Kiguchi, Kazuo	Saga Univ.
Li, Yang	Saga Univ.

15:20-15:40	MoIIIT2.5

Adaptive Dynamic Coupling Control of Human-Symbiotic Wheeled Mobile Manipulators with Hybrid Joints, pp. 1132-1137.

Li, Zhijun	Shanghai Jiao Tong Univ.
Luo, Jun	Shanghai Univ.
Dai, Lei	Shanghai Jiao Tong Univ.

MoIIIT3	Grand C

Mapping I (Regular Sessions)

Chair: Tomono, Masahiro	Chiba Inst. of Tech.
Co-Chair: Roumeliotis, Stergios	Univ. of Minnesota

14:00-14:20	MoIIIT3.1

3D Feature Based Mapping towards Mobile Robots' Enhanced Performance in Rescue Missions, pp. 1138-1143. Attachment

de la Puente, Paloma	Univ. Pol. de Madrid
Rodriguez-losada, Diego	Univ. Pol. de Madrid

Valero, Alberto	Univ. Pol. de Madrid
Matia, Fernando	Univ. Pol. de Madrid

14:20-14:40	MoIIIT3.2

On the Bending Problem for Large Scale Mapping, pp. 1144-1149.

Esteban, Isaac	Univ. of Amsterdam
Booij, Olaf	Univ. of Amsterdam
Dijk, Judith	TNO
Groen, Frans	Univ. of Amsterdam

14:40-15:00	MoIIIT3.3

Fast 3D Mapping by Matching Planes Extracted from Range Sensor Point-Clouds, pp. 1150-1155.

Pathak, Kaustubh	Jacobs Univ. Bremen
Vaskevicius, Narunas	Jacobs Univ.
Poppinga, Jann	Jacobs Univ. Bremen
Schwertfeger, Sören	International Univ. Bremen
Pfingsthorn, Max	Jacobs Univ.
Birk, Andreas	Jacobs Univ.

15:00-15:20	MoIIIT3.4

Towards Lifetime Visual Maps, pp. 1156-1163.

Konolige, Kurt	Willow Garage
Bowman, James	Willow Garage

15:20-15:40	MoIIIT3.5

Detailed 3D Mapping Based on Image Edge-Point ICP and Recovery from Registration Failure, pp. 1164-1169. Attachment

Tomono, Masahiro	Chiba Inst. of Tech.

MoIIIT4	Grand F
Field Robotics - Planning & Control (Regular Sessions)	
Chair: Iagnemma, Karl	MIT
Co-Chair: Balakirsky, Stephen	NIST

14:00-14:20	MoIIIT4.1

Towards Reliable Perception for Unmanned Ground Vehicles in Challenging Conditions, pp. 1170-1176.

Peynot, Thierry	The Univ. of Sydney
Underwood, James Patrick	The Univ. of Sydney
Scheding, Steven	The Univ. of Sydney

14:20-14:40	MoIIIT4.2

A Multi-Element Generalized Polynomial Chaos Approach to Analysis of Mobile Robot Dynamics under Uncertainty, pp. 1177-1182.

Kewlani, Gaurav	Massachusetts Inst. of Tech.
Iagnemma, Karl	MIT

14:40-15:00	MoIIIT4.3

Stochastic Mobility-Based Path Planning in Uncertain Environments, pp. 1183-1189.

Kewlani, Gaurav	Massachusetts Inst. of Tech.
Ishigami, Genya	Massachusetts Inst. of Tech.
Iagnemma, Karl	MIT

15:00-15:20	MoIIIT4.4

Cooperative Multi-Robot Reinforcement Learning: A Framework in Hybrid State Space, pp. 1190-1196. Attachment

Sun, Xueqing	Dartmouth Coll.
Mao, Tao	Dartmouth Coll.
Kralik, Jerald	Dartmouth Coll.
Ray, Laura	Dartmouth Coll.

15:20-15:40	MoIIIT4.5

Multi-Model Based Sideslip Angle Observer: Accurate Control of High-Speed Mobile Robots in Off-Road Conditions, pp. 1197-1202.

Lenain, Roland	Cemagref
Thuilot, Benoit	Clermont-Ferrand Univ.
Cariou, Christophe	Cemagref
Martinet, Philippe	Blaise Pascal Univ.

MoIIIT5	Grand G
Outdoor Navigation (Regular Sessions)	
Chair: Burgard, Wolfram	Univ. of Freiburg
Co-Chair: Matsumoto, Yoshio	Osaka Univ.

14:00-14:20	MoIIIT5.1

Using Linear Landmarks for Path Planning with Uncertainty in Outdoor Environments, pp. 1203-1210.

Gonzalez, Juan Pablo	GDRS
Stentz, Anthony	Carnegie Mellon Univ.

14:20-14:40	MoIIIT5.2

Consistent Outdoor Vehicle Localization by Bounded-Error State Estimation, pp. 1211-1216.

Lambert, Alain	Inst. d'Electronique Fondamentale
Gruyer, Dominique	INRETS/LCPC
Vincke, Bastien	IEF Univ. de Paris Sud-XI
Seignez, Emmanuel	Ec. Supérieure d'Ingénieurs en Electronique et Electrotechniqu

14:40-15:00	MoIIIT5.3
Improving Robot Navigation in Structured Outdoor Environments by Identifying Vegetation from Laser Data, pp. 1217-1222. Attachment	
Wurm, Kai M.	Univ. of Freiburg
Kuemmerle, Rainer	Univ. of Freiburg
Stachniss, Cyrill	Univ. of Freiburg
Burgard, Wolfram	Univ. of Freiburg

15:00-15:20	MoIIIT5.4
New Likelihood Updating for the IMM Approach, Application to Outdoor Vehicles Localization, pp. 1223-1228.	
Ndjeng Ndjeng, Alexandre	INRETS/LCPC
Gruyer, Dominique	INRETS/LCPC
Glaser, Sebastien	INRETS/LCPC

15:20-15:40	MoIIIT5.5
View-Sequece Based Indoor/Outdoor Navigation Robust to Illumination Changes, pp. 1229-1234. Attachment	
Yamagi, Yoichiro	Nara Inst. of Science and Tech.
Ido, Junichi	Nara Inst. of Science and Tech.
Takemura, Kentaro	Nara Inst. of Science and Tech.
Matsumoto, Yoshio	Osaka Univ.
Takamatsu, Jun	Nara Inst. of Science and Tech.
Ogasawara, Tsukasa	Nara Inst. of Science and Tech.

MoIIIT6	Grand H
Haptics I (Regular Sessions)	
Chair: Suzumori, Koichi	Okayama Univ.
Co-Chair: Bleuler, Hannes	Ec. Pol. Federale de Lausanne

14:00-14:20	MoIIIT6.1
A Shoe-Integrated Tactile Display for Directional Navigation, pp. 1235-1240.	
Velazquez, Ramiro	Univ. Panamericana
Bazan, Omar	Univ. Panamericana
Magańa, Marco	Univ. Panamericana

14:20-14:40	MoIIIT6.2
An Enhanced Haptic Assembly Simulation System for the Efficiency of Assembly Tasks, pp. 1241-1246. Attachment	
, Christiand	ETRI
Yoon, Jungwon	Gyeongsang National Univ.
Manurung, Auralius	Robot and Intelligent Systems
Yu, Wonpil	ETRI

14:40-15:00	MoIIIT6.3
Experimental Performance Evaluation of a Haptic Training Simulation System, pp. 1247-1252.	
Khademian, Behzad	Queen's Univ.
Hashtrudi-Zaad, Keyvan	Queen's Univ.

15:00-15:20	MoIIIT6.4
Müller-Lyer Illusion Effect on a Reaching Movement in Simultaneous Presentation of Visual and Haptic/Kinesthetic Cues, pp. 1253-1258.	
Hara, Masayuki	École Pol. Fédérale de Lausanne
Kosaka, Sho	Yokohama National Univ.
Huang, Jian	Kinki Univ.
Bleuler, Hannes	Ec. Pol. Federale de Lausanne
Yabuta, Tetsuro	Yokohama National Univ.

15:20-15:40	MoIIIT6.5
Development of Active 80-Faced Polyhedron for Haptic Physical Human-Machine Interface, pp. 1259-1264. Attachment	
Kubo, Tomoya	Okayama Univ.
Kobayashi, Yusuke	Okayama Univ.
Mohd Faudzi, Ahmad `Athif	Okayama Univ.
Suzumori, Koichi	Okayama Univ.

MoIIIT7	Mills 1
Grasping I (Regular Sessions)	
Chair: Fagg, Andrew	Univ. of Oklahoma
Co-Chair: Allen, Peter	Columbia Univ.

14:00-14:20	MoIIIT7.1
Learning Grasp Affordances with Variable Centroid Offsets, pp. 1265-1271.	
Palmer, Thomas	Univ. of Oklahoma
Fagg, Andrew	Univ. of Oklahoma

14:20-14:40	MoIIIT7.2
A Hybrid Approach for Grasping 3D Objects, pp. 1272-1277.	
Sahbani, Anis	Univ. Pierre et Marie Curie - Paris 6, ISIR, CNRS-UMR 7222
El-Khoury, Sahar	Univ. Pierre et Marie Curie (Paris6)

14:40-15:00	MoIIIT7.3
Data-Driven Grasping with Partial Sensor Data, pp. 1278-1283.	
Goldfeder, Corey	Columbia Univ.
Ciocarlie, Matei	Columbia Univ.

Peretzman, Jaime	Columbia Univ.
Dang, Hao	Columbia Univ.
Allen, Peter	Columbia Univ.

15:00-15:20   MoIIIT7.4

3D Hand Trajectory Segmentation by Curvatures and Hand Orientation for Classification through a Probabilistic Approach, pp. 1284-1289.

Faria, Diego	Univ. of Coimbra
Dias, Jorge	Univ. of Coimbra

15:20-15:40   MoIIIT7.5

Floating Visual Grasp of Unknown Objects, pp. 1290-1295.

Lippiello, Vincenzo	Univ. di Napoli Federico II
Ruggiero, Fabio	Univ. di Napoli Federico II
Villani, Luigi	Univ. di Napoli Federico II

MoIIIT8   Mills 2

Underactuated Robots (Regular Sessions)

Chair: Hasegawa, Yasuhisa	Univ. of Tsukuba
Co-Chair: Ishikawa, Masato	Kyoto Univ.

14:00-14:20   MoIIIT8.1

Energy-Based Control Design of an Underactuated 2-Dimensional TORA System, pp. 1296-1301.

Gao, Bingtuan	Michigan State Univ.
Zhang, Xiaohua	Harbin Inst. of Tech.
Chen, Hongjun	Harbin Inst. of Tech.
Zhao, Jianguo	Michigan State Univ.

14:20-14:40   MoIIIT8.2

Estimation-Based Disturbance Rejection in Control for Limit Cycle Generation on Inertia Wheel Inverted Pendulum Testbed, pp. 1302-1307. Attachment

Andary, Sebastien	LIRMM - Univ. Montpellier 2
Chemori, Ahmed	LIRMM
Krut, Sebastien	LIRMM (CNRS & Univ. Montpellier 2)

14:40-15:00   MoIIIT8.3

Experimental Verification of 3D Bipedal Walking Based on Passive Dynamic Autonomous Control, pp. 1308-1313. Attachment

Aoyama, Tadayoshi	Nagoya Univ.
Sekiyama, Kosuke	Nagoya Univ.
Hasegawa, Yasuhisa	Univ. of Tsukuba
Fukuda, Toshio	Nagoya Univ.

15:00-15:20   MoIIIT8.4

Control of the Double-Linked Trident Snake Robot Based on the Analysis of Its Oscillatory Dynamics, pp. 1314-1319.

Ishikawa, Masato	Kyoto Univ.
Fujino, Takahiro	Kyoto Univ.

15:20-15:40   MoIIIT8.5

The Dynamical Servo Control Problem for the Acrobot Based on Virtual Constraints Approach, pp. 1320-1325.

Zhang, Xiaohua	Harbin Inst. of Tech.
Cheng, Hongtai	Harbin Inst. of Tech.
Zhao, Yini	Harbin Inst. of Tech.
Gao, Bingtuan	Michigan State Univ.

MoIIIT9   Mills 3

Nanorobotic Manipulation (Regular Sessions)

Chair: Régnier, Stéphane	Univ. Paris 6
Co-Chair: Liu, Lianqing	Shenyang Inst. of Automation

14:00-14:20   MoIIIT9.1

Atomic Force Microscopy-Based Single-Cell Indentation: Experimentation and Finite Element Simulation, pp. 1326-1332.

Ladjal, Hamid	ENSI Bourges, Univ. Orleans
Hanus, Jean Luc	ENSI Bourges
Pillarisetti, Anand	Univ. of Maryland
Keefer, Carol	UMCP
Ferreira, Antoine	Univ. of Orléans
Desai, Jaydev P.	Univ. of Maryland

14:20-14:40   MoIIIT9.2

Pick-And-Place Nanomanipulation with Three-Dimensional Manipulation Force Microscopy (I), pp. 1333-1338.

Xie, Hui	Univ. Pierre et Marie Curie-Paris VI/CNRS
Acosta, Juan Camilo	Univ. Pierre et Marie Curie
Haliyo, Dogan Sinan	Univ. Paris 6
Régnier, Stéphane	Univ. Paris 6

14:40-15:00   MoIIIT9.3

Motion Controller for the Atomic Force Microscopy Based Nanomanipulation System, pp. 1339-1344.

Yang, Ruiguo	Michigan State Univ.
Xi, Ning	Michigan State Univ.
Lai, King Wai Chiu	Michigan State Univ.
Gao, Bingtuan	Michigan State Univ.

Chen, Hongzhi	Michigan State Univ.
Su, Chanmin	Veeco Inst.
Shi, Jian	Veeco Inst. Inc.

15:00-15:20	MoIIIT9.4

Local Scan for Compensation of Drift Contamination in AFM Based Nanomanipulation, pp. 1345-1350.

Li, Guangyong	Univ. of Pittsburgh
Wang, Yucai	Univ. of Pittsburgh
Liu, Lianqing	Shenyang Inst. of Automation

15:20-15:40	MoIIIT9.5

Feature Referenced Tip Localization in Nano Robotic Manipulation, pp. 1351-1356.

Liu, Lianqing	Shenyang Inst. of Automation
Xi, Ning	Michigan State Univ.
Wang, Yuechao	Shenyang Inst. of Automation
Dong, Zaili	Shenyang Inst. of Automation

MoIIIT10	Mills 4

Multi-Robot Systems Communication (Regular Sessions)

Chair: Vaughan, Richard	Simon Fraser Univ.
Co-Chair: Goldberg, Ken	UC Berkeley

14:00-14:20	MoIIIT10.1

Coordinating Recharging of Large Scale Robotic Teams, pp. 1357-1362.

Drenner, Andrew	UMN
Janssen, Michael	Univ. of Minnesota, Minneapolis
Papanikolopoulos, Nikos	Univ. of Minnesota

14:20-14:40	MoIIIT10.2

Adaptive Mobile Charging Stations for Multi-Robot Systems, pp. 1363-1368.

Couture-Beil, Alex	Simon Fraser Univ.
Vaughan, Richard	Simon Fraser Univ.

14:40-15:00	MoIIIT10.3

Nonparametric Belief Propagation for Distributed Tracking of Robot Networks with Noisy Inter-Distance Measurements, pp. 1369-1376.

Schiff, Jeremy	UC Berkeley
Sudderth, Erik	Univ. of California, Berkeley
Goldberg, Ken	UC Berkeley

15:00-15:20	MoIIIT10.4

An Adaptive Mobile Robots Tethering Algorithm in Constrained Environments, pp. 1377-1382. Attachment

Chen, Xi	Michigan Tech. Univ.
Tan, Jindong	Michigan Tech. Univ.

15:20-15:40	MoIIIT10.5

TENTACLES: Self-Configuring Robotic Radio Networks in Unknown Environments, pp. 1383-1388.

Chiu, Chi Ho	Univ. of Southern California
Salemi, Behnam	USC/ISI
Rubenstein, Michael	Univ. of southern california
Shen, Wei-Min	USC Information Science Inst.
Zhu, Hua	ArgonST
Maheswaran, Rajiv	Univ. of Southern California - Information Sciences Inst.
Szekely, Pedro	Univ. of Southern California
Rogers, Craig	Univ. of Southern California

MoIIIT11	Mills 5

Advanced Control Techniques in Micro/Nano Manipulation II (Invited Sessions)

Co-Chair: Li, Yangmin	Univ. of Macau

14:00-14:20	MoIIIT11.1

Parasitic Effects on Nanoassembly Processes (I), pp. 1389-1394.

Wich, Thomas	Univ. of Oldenburg
Stolle, Christian	Univ. of Oldenburg
Edeler, Christoph	Univ. of Oldenburg
Fatikow, Sergej	Univ. of Oldenburg

14:20-14:40	MoIIIT11.2

Microbubble Generation Using a Syringe Pump (I), pp. 1395-1400.

Lenders, Cyrille	Univ. libre de Bruxelles (U.L.B.)
Gauthier, Michael	FEMTO-ST Inst.
Lambert, Pierre	Univ. libre de Bruxelles

14:40-15:00	MoIIIT11.3

Micromanipulation Using Artificial Bacterial Flagella (I), pp. 1401-1406.

Zhang, Li	ETH Zurich
Abbott, Jake	Univ. of Utah
Dong, Lixin	Michigan State Univ.
Kratochvil, Bradley	ETH Zurich
Nelson, Bradley J.	ETH Zurich

15:00-15:20 MoIIIT11.4
Metal-Filled Carbon Nanotubes for Nanofluidic Systems: Modes of Melting and Evaporation (I), pp. 1407-1412.
Dong, Lixin Michigan State Univ.
Tao, Xinyong Zhejiang Univ.
Zhang, Li ETH Zurich
Zhang, Xiaobin Zhejiang Univ.
Nelson, Bradley J. ETH Zurich

15:20-15:40 MoIIIT11.5
Laser Manipulation and Optical Adhesion Control of Functional Gel-Microtool for On-Chip Cell Manipulation (I), pp. 1413-1418.
Maruyama, Hisataka Tohoku Univ.
Fukuda, Toshio Nagoya Univ.
Arai, Fumihito Tohoku Univ.

MoIIIT12	Mills 6

Manipulator Motion Planning III (Regular Sessions)

Chair: Kuffner, James Carnegie Mellon Univ.
Co-Chair: Xiao, Jing UNC-Charlotte

14:00-14:20 MoIIIT12.1
Addressing Pose Uncertainty in Manipulation Planning Using Task Space Regions, pp. 1419-1425.
Berenson, Dmitry Carnegie Mellon
Srinivasa, Siddhartha Intel Res. Pittsburgh
Kuffner, James Carnegie Mellon Univ.

14:20-14:40 MoIIIT12.2
Lazy-PRM for a Manipulator with Base Pose Uncertainty, pp. 1426-1432.
Huang, Yifeng Simon Fraser Univ.
Gupta, Kamal Simon Fraser Univ.

14:40-15:00 MoIIIT12.3
Perceiving Guaranteed Continuously Collision-Free Robot Trajectories in an Unknown and Unpredictable Environment, pp. 1433-1438.
Attachment
Vatcha, Rayomand Univ. of North Carolina - Charlotte
Xiao, Jing UNC-Charlotte

15:00-15:20 MoIIIT12.4
Path Planning in Changing Environments by Using Optimal Path Segment Search, pp. 1439-1445.
Liu, Hong Peking Univ.
Wen, He Peking Univ.
Li, Yan Peking Univ.

15:20-15:40 MoIIIT12.5
Optimal Placement of a Two-Link Manipulator for Door Opening, pp. 1446-1451.
Urakubo, Takateru Graduate School of Engineering, Kobe Univ.
Mashimo, Tomoaki Carnegie Mellon Univ.
Kanade, Takeo Carnegie Mellon Univ.

MoIIIT13	Mills 7

Body Movement Modeling and Analysis (Regular Sessions)

Chair: Dariush, Behzad Honda Res. Inst. USA
Co-Chair: Esteban, Isaac Univ. of Amsterdam

14:00-14:20 MoIIIT13.1
Toward a Vision Based Hand Gesture Interface for Robotic Grasping, pp. 1452-1459.
Gopalan, Raghuraman Univ. of Maryland
Dariush, Behzad Honda Res. Inst. USA

14:20-14:40 MoIIIT13.2
Fingertip Detection with Morphology and Geometric Calculation, pp. 1460-1465.
Nguyen, Duc Dung SungKyunKwan Univ.
Pham, Thien Cong Sungkyunkwan Univ.
Jeon, Jae Wook Sungkyunkwan Univ.

14:40-15:00 MoIIIT13.3
Robust Real-Time 3D Head Tracking Based on Online Illumination Modeling and Its Application to Face Recognition, pp. 1466-1471.
An, Kwang Ho KAIST
Chung, Myung Jin KAIST

15:00-15:20 MoIIIT13.4
Modeling and Analysis of a Biomimetic Foot Mechanism, pp. 1472-1477. Attachment
Seo, Jong Tae Hanyang Univ.
Yi, Byung-Ju Hanayang Univ.

15:20-15:40 MoIIIT13.5
Simple Components for a Reconfigurable Modular Robotic System, pp. 1478-1483. Attachment
Moses, Matthew S Johns Hopkins Univ.
Chirikjian, Gregory Johns Hopkins Univ.

MoIIIT14	Mills 8
Cellular Robots (Regular Sessions)	

Chair: Goldstein, Seth Copen	Carnegie Mellon Univ.
Co-Chair: Ishiguro, Akio	Tohoku Univ.

14:00-14:20	MoIIIT14.1

Scalable Self-Assembly and Self-Repair in a Collective of Robots, pp. 1484-1489. Attachment

Rubenstein, Michael	Univ. of southern california
Shen, Wei-Min	USC Information Science Inst.

14:20-14:40	MoIIIT14.2

Design of Prismatic Cube Modules for Convex Corner Traversal in 3D, pp. 1490-1495. Attachment

Weller, Michael Philetus	Carnegie Mellon Univ.
Kirby, Brian	Carnegie Mellon Univ.
Brown, H. Ben	Carnegie Mellon Univ.
Gross, Mark D.	Carnegie Mellon Univ.
Goldstein, Seth Copen	Carnegie Mellon Univ.

14:40-15:00	MoIIIT14.3

An Amoeboid Modular Robot That Exhibits Real-Time Adaptive Reconfiguration, pp. 1496-1501. Attachment

Shimizu, Masahiro	Tohoku Univ.
Ishiguro, Akio	Tohoku Univ.

15:00-15:20	MoIIIT14.4

On the Efficiency of Local and Global Communication in Modular Robots, pp. 1502-1508.

Mendoza Garcia, Ricardo Franco	Univ. of Southern Denmark, Univ. de Tarapaca Arica Ch
Schultz, Ulrik Pagh	Univ. of Southern Denmark
Stoy, Kasper	Univ. of Southern Denmark

15:20-15:40	MoIIIT14.5

Building a Distributed Robot Garden, pp. 1509-1516. Attachment

Correll, Nikolaus	Massachusetts Inst. of Tech.
Bolger, Adrienne	Massachusetts Inst. of Tech.
Bollini, Mario	MIT
Charrow, Benjamin	MIT
Clayton, Adam	MIT
Dominguez, Felipe	MIT
Donahue, Kenneth	MIT
Dyar, Samuel	MIT
Johnson, Luke	MIT
Liu, Huan	MIT
Patrikalakis, Alexander	MIT
Smith, Jeremy	MIT
Tanner, Melissa	MIT
White, Lauren	MIT
Robertson, Timothy	MIT
Soltero, Daniel	MIT
Arechiga, Nikos	MIT
Rus, Daniela	MIT

MoIIIT15	Sterling 6
Robot Localization and Mapping I (Regular Sessions)	

Chair: Fu, Li-Chen	National Taiwan Univ.
Co-Chair: Lepinay, Pascal	Univ. of Montpellier II

14:00-14:20	MoIIIT15.1

NDT Scan Matching Method for High Resolution Grid Map, pp. 1517-1522.

Takubo, Tomohito	Osaka Univ.
Kaminade, Takuya	Osaka Univ.
Mae, Yasushi	Osaka Univ.
Ohara, Kenichi	Osaka Univ.
Arai, Tatsuo	Osaka Univ.

14:20-14:40	MoIIIT15.2

A Hybrid Approach to RBPF Based SLAM with Grid Mapping Enhanced by Line Matching, pp. 1523-1528.

Kuo, Wei-Jen	National Taiwan Univ.
Tseng, Shih-Huan	National Taiwan Univ.
Yu, Jia-Yuan	National Taiwan Univ.
Fu, Li-Chen	National Taiwan Univ.

14:40-15:00	MoIIIT15.3

A Parallel Maximum Likelihood Algorithm for Robot Mapping, pp. 1529-1534.

Lodi Rizzini, Dario	Univ. of Parma
Caselli, Stefano	Univ. of Parma

15:00-15:20	MoIIIT15.4

Event-Driven Loop Closure in Multi-Robot Mapping, pp. 1535-1540. Attachment

Vidal-Calleja, Teresa A.	Univ. of Sydney
Berger, Cyrille	Univ. de Toulouse, LAAS/CNRS, Thalĉs

Lacroix, Simon	LAAS/CNRS
15:20-15:40	MoIIIT15.5

Self-Adaptive Monte Carlo Localization for Mobile Robots Using Range Sensors, pp. 1541-1546. Attachment

Zhang, Lei	Univ. of Montpellier II
Zapata, René	Univ. of Montpellier II
Lepinay, Pascal	Univ. of Montpellier II

MoIIIT16	Sterling 7
Visual SLAM (Regular Sessions)	
Chair: Eustice, Ryan M.	Univ. of Michigan
Co-Chair: Solŕ, Joan	LAAS-CNRS, Univ. of Toulouse
14:00-14:20	MoIIIT16.1

Efficient Integration of Inertial Observations into Visual SLAM without Initialization, pp. 1547-1552.

Lupton, Todd	Univ. of Sydney
Sukkarieh, Salah	Univ. of Sydney
14:20-14:40	MoIIIT16.2

Undelayed Initialization of Line Segments in Monocular SLAM, pp. 1553-1558. Attachment

Solŕ, Joan	LAAS-CNRS, Univ. of Toulouse
Vidal-Calleja, Teresa A.	CNRS
Devy, Michel	LAAS-CNRS
14:40-15:00	MoIIIT16.3

Pose-Graph Visual SLAM with Geometric Model Selection for Autonomous Underwater Ship Hull Inspection, pp. 1559-1565. Attachment

Kim, Ayoung	Univ. of Michigan
Eustice, Ryan	Univ. of Michigan
15:00-15:20	MoIIIT16.4

Monocular Vision SLAM for Indoor Aerial Vehicles, pp. 1566-1573. Attachment

Celik, Koray	Iowa State Univ.
Chung, Soon-Jo	Univ. of Illinois at Urbana-Champaign
Clausman, Matthew	Iowa State Univ.
Somani, Arun K.	Iowa State Univ.
15:20-15:40	MoIIIT16.5

Performance Evaluation of Visual SLAM Using Several Feature Extractors, pp. 1574-1581.

Klippenstein, Jonathan Stephen	Univ. of Alberta
Zhang, Hong	Univ. of Alberta

MoIVT1	Grand A
Humanoid Robot Planning and Control (Regular Sessions)	
Chair: Zhou, Yu	SUNY at Stony Brook
Co-Chair: Liu, Lianqing	Shenyang Inst. of Automation
16:00-16:20	MoIVT1.1

Decentralized Planning for Dynamic Motion Generation of Multi-Link Robotic Systems, pp. 1582-1587.

Tazaki, Yuichi	Nagoya Univ.
Sugiura, Hisashi	Honda Res. Inst. Europe
Janssen, Herbert	Honda Res. Inst. Europe
Goerick, Christian	Honda Res. Inst. Europe GmbH
16:20-16:40	MoIVT1.2

ZMP Trajectory Reference for the Sagittal Plane Control of a Biped Robot Based on a Human CoP and Gait, pp. 1588-1593. Attachment

Ferreira, João	ISEC
Crisóstomo, Manuel Marques	Inst. of Systems & Robotics - Univ. of Coimbra
Coimbra, A. Paulo	Inst. de Sistemas de Robotica - Univ. of Coimbra, VAT 5
16:40-17:00	MoIVT1.3

Real Time Motion Generation and Control for Biped Robot -3rd Report: Gait Pattern Modification to Compensate Approximated Dynamics Error -, pp. 1594-1600.

Takenaka, Toru	Honda R&D Co.,Ltd.
Matsumoto, Takashi	Honda R&D Co.,Ltd.
Yoshiike, Takahide	Honda R&D Co.,Ltd.
17:00-17:20	MoIVT1.4

Real Time Motion Generation and Control for Biped Robot -4th Report: Integrated Balance Control, pp. 1601-1608.

Takenaka, Toru	Honda R&D Co.,Ltd.
Matsumoto, Takashi	Honda R&D Co.,Ltd.
Yoshiike, Takahide	Honda R&D Co.,Ltd.
Hasegawa, Tadaaki	Honda R&D Co.,Ltd.
Shirokura, Shinya	Honda R&D Co.,Ltd.
Kaneko, Hiroyuki	Honda R&D Co.,Ltd.
Orita, Atsuo	Honda R&D Co.,Ltd.
17:20-17:40	MoIVT1.5

Optimization of Tasks Warping and Scheduling for Smooth Sequencing of Robotic Actions, pp. 1609-1614. Attachment

Keith, François	AIST/CNRS
Mansard, Nicolas	AIST/CNRS JRL-Japan

Miossec, Sylvain	IUT de Bourges, Univ. of Orleans
Kheddar, Abderrahmane	CNRS

MoIVT2   **Grand B**
Rehabilitation Robotics II (Regular Sessions)

Chair: Nakamura, Yoshihiko	Univ. of Tokyo
Co-Chair: Fujie, Masakatsu G.	Waseda Univ.

16:00-16:20   MoIVT2.1

Optimal Design of a Micro Macro Neural Network to Recognize Rollover Movement, pp. 1615-1620.

Ando, Takeshi	Waseda Univ.
Okamoto, Jun	Waseda Univ.
Fujie, Masakatsu G.	Waseda Univ.

16:20-16:40   MoIVT2.2

EMG-To-Force Estimation with Full-Scale Physiology Based Muscle Model, pp. 1621-1626.

Hayashibe, Mitsuhiro	INRIA
Guiraud, David	INRIA
Poignet, Philippe	LIRMM UMR 5506 CNRS UM2

16:40-17:00   MoIVT2.3

Optimal Estimation of Human Body Segments Dynamics Using Realtime Visual Feedback, pp. 1627-1632.

Venture, Gentiane	Tokyo Univ. of Agriculture and Tech.
Ayusawa, Ko	Univ. of Tokyo
Nakamura, Yoshihiko	Univ. of Tokyo

17:00-17:20   MoIVT2.4

FES-Controlled Co-Contraction Strategies for Pathological Tremor Compensation, pp. 1633-1638.

Bó, Antônio Padilha Lanari	LIRMM UMR 5506 CNRS UM2
Poignet, Philippe	LIRMM UMR 5506 CNRS UM2
Zhang, Dingguo	NTU
Ang, Wei Tech	Nanyang Tech. Univ.

17:20-17:40   MoIVT2.5

Regressor-Free Force/Position Control of Fixed-Base Exoskeletons for Rehabilitation Tasks, pp. 1639-1645.

Lugo Villeda, Luis Ivan	Scuola Superiore Sant'Anna, PERCRO
Frisoli, Antonio	Scuola Superiore Sant'Anna
Parra Vega, Vicente	CINVESTAV
Bergamasco, Massimo	Scuola Superiore S.Anna

MoIVT3   **Grand C**
Mapping II (Regular Sessions)

Chair: Kuipers, Benjamin	Univ. of Michigan
Co-Chair: Sagues, Carlos	Univ. de Zaragoza

16:00-16:20   MoIVT3.1

A Stereo Vision Based Mapping Algorithm for Detecting Inclines, Drop-Offs, and Obstacles for Safe Local Navigation, pp. 1646-1653.
Attachment

Murarka, Aniket	The Univ. of Texas at Austin
Kuipers, Benjamin	Univ. of Michigan

16:20-16:40   MoIVT3.2

Simultaneous Multi-Line-Segment Merging for Robot Mapping Using Mean Shift Clustering, pp. 1654-1660. Attachment

Lakaemper, Rolf	Temple Univ.

16:40-17:00   MoIVT3.3

Topological Maps Based on Graphs of Planar Regions, pp. 1661-1666.

Montijano, Eduardo	Univ. de Zaragoza
Sagues, Carlos	Univ. de Zaragoza

17:00-17:20   MoIVT3.4

Learning Moving Objects in a Multi-Target Tracking Scenario for Mobile Robots That Use Laser Range Measurements, pp. 1667-1672.

Kondaxakis, Polychronis	Foundation for Res. and Tech. – Hellas (FORTH)
Baltzakis, Haris	Foundation for Res. and Tech. - Hellas
Trahanias, Panos	Foundation for Res. and Tech. – Hellas (FORTH)

17:20-17:40   MoIVT3.5

Robust 3D-Mapping with Time-Of-Flight Cameras, pp. 1673-1678.

May, Stefan	INRIA
Fuchs, Stefan	German Aerospace Center
Droeschel, David	Fraunhofer IAIS
Holz, Dirk	IAIS
Nuechter, Andreas	Univ. of Osnabrueck

MoIVT4   **Grand F**
Field Robotics - Systems (Regular Sessions)

Chair: Iagnemma, Karl	MIT
Co-Chair: Tadakuma, Kenjiro	Massachusetts Inst. of Tech.

16:00-16:20	MoIVT4.1

Basic Running Test of the Cylindrical Tracked Vehicle with Sideways Mobility, pp. 1679-1684. Attachment

Tadakuma, Kenjiro	Massachusetts Inst. of Tech.
Tadakuma, Riichiro	Harvard Univ.
Nagatani, Keiji	Tohoku Univ.
Yoshida, Kazuya	Tohoku Univ.
Ming, Aiguo	The Univ. of Electro-Communications
Shimojo, Makoto	Univ. of Electro-COmmunications
Iagnemma, Karl	MIT

16:20-16:40	MoIVT4.2

Development of an Autonomous Robot for Ground Penetrating Radar Surveys of Polar Ice, pp. 1685-1690.

Trautmann, Eric	Dartmouth Coll.
Ray, Laura	Dartmouth Coll.
Lever, James	U.S. Army CRREL

16:40-17:00	MoIVT4.3

Mag-Foot: A Steel Bridge Inspection Robot, pp. 1691-1696. Attachment

Mazumdar, Anirban	Massachusetts Inst. of Tech.
Asada, Harry	MIT

17:00-17:20	MoIVT4.4

Docking Manipulator for a Reconfigurable Mobile Robot System, pp. 1697-1702. Attachment

Wang, Wei	Beihang Univ.
Zhang, Houxiang	Computer Science
Yu, Wenpeng	BeiJing Univ. of Aeronautics And Astronautics
Zhang, Jianwei	Univ. of Hamburg

17:20-17:40	MoIVT4.5

Reliable and Intuitive Teleoperation of LineScout: A Mobile Robot for Live Transmission Line Maintenance, pp. 1703-1710.

Pouliot, Nicolas	Hydro-Québec Res. Inst.
Latulippe, Pierre	Hydro-Québec/IREQ
Montambault, Serge	Hydro-Québec Res. Inst.
Tremblay, Simon	Hydro-Quebec

MoIVT5	Grand G
Intelligent Vehicle Navigation (Regular Sessions)	

Chair: Huang, Albert S.	Massachusetts Inst. of Tech.
Co-Chair: Heracles, Martin	Res. Inst. for Cognition and Robotics, Bielefeld Univ.

16:00-16:20	MoIVT5.1

Regression-Based Online Situation Recognition for Vehicular Traffic Scenarios, pp. 1711-1716.

Meyer-Delius, Daniel	Univ. Freiburg
Sturm, Jürgen	Univ. of Freiburg
Burgard, Wolfram	Univ. of Freiburg

16:20-16:40	MoIVT5.2

Fast Shadow Detection for Urban Autonomous Driving Applications, pp. 1717-1722.

Park, Sooho	MIT
Lim, Sejoon	MIT

16:40-17:00	MoIVT5.3

Stereovision-Based Road Boundary Detection for Intelligent Vehicles in Challenging Scenarios, pp. 1723-1728.

Guo, Chunzhao	Toyota Tech. Inst.
Mita, Seiichi	Toyota Tech. Inst.
McAllester, David	Toyota Tech. Inst. at Chicago

17:00-17:20	MoIVT5.4

Lane Boundary and Curb Estimation with Lateral Uncertainties, pp. 1729-1734.

Huang, Albert S.	Massachusetts Inst. of Tech.
Teller, Seth	MIT

17:20-17:40	MoIVT5.5

A Dynamic Attention System That Reorients to Unexpected Motion in Real-World Traffic Environments, pp. 1735-1742. Attachment

Heracles, Martin	Res. Inst. for Cognition and Robotics, Bielefeld Univ.
Körner, Ursula	Honda Res. Inst. Europe
Michalke, Thomas	Honda Res. Inst. Europe
Sagerer, Gerhard	Univ. of Bielefeld
Fritsch, Jannik	Honda Res. Inst. Europe GmbH
Goerick, Christian	Honda Res. Inst. Europe GmbH

MoIVT6	Grand H
Haptics II (Regular Sessions)	

Chair: Tahara, Kenji	Kyushu Univ.
Co-Chair: Lee, Dongjun	Univ. of Tennessee-Knoxville

16:00-16:20	MoIVT6.1

Modeling Global Deformation Using Circular Beams for Haptic Interaction, pp. 1743-1748. Attachment

Cui, Tong	Univ. of North Carolina at Charlotte

Xiao, Jing	UNC-Charlotte
Song, Aiguo	Southeast Univ.

16:20-16:40   MoIVT6.2

Haptic Device Using Flexible Sheet and Air Jet for Presenting Virtual Lumps under Skin, pp. 1749-1754.

Inoue, Kenji	Yamagata Univ.
Kato, Fuyuki	Yamagata Univ.
Lee, Suwoong	Yamagata Univ.

16:40-17:00   MoIVT6.3

Internal Dissipation in Passive Sampled Haptic Feedback Systems, pp. 1755-1760.

Franken, Michel	Univ. of Twente
Stramigioli, Stefano	Univ. of Twente

17:00-17:20   MoIVT6.4

Extension of Colgate's Passivity Condition for Variable-Rate Haptics, pp. 1761-1766.

Lee, Dongjun	Univ. of Tennessee-Knoxville

17:20-17:40   MoIVT6.5

Segmentation Method of Human Manipulation Task Based on Measurement of Force Imposed by a Human Hand on a Grasped Object, pp. 1767-1772.

Matsuo, Kazuya	Kyushu Univ.
Murakami, Kouji	Kyushu Univ.
Hasegawa, Tsutomu	Kyushu Univ.
Tahara, Kenji	Kyushu Univ.
Kurazume, Ryo	Kyushu Univ.

MoIVT7   Mills 1

Grasping II (Regular Sessions)

Chair: Ueno, Taihei	Tokyo Inst. of Tech.
Co-Chair: Yamanobe, Natsuki	Advanced Industrial Science and Tech.

16:00-16:20   MoIVT7.1

Efficient Search of Obstacle-Free Paths for Anthropomorphic Hands, pp. 1773-1778. Attachment

Suarez, Raul	Tech. Univ. of Catalonia
Rosell, Jan	Tech. Univ. of Catalonia
Pérez, Alexander	Tech. Univ. of Catalonia
Rosales, Carlos	Univ. Pol. de Catalunya, UPC

16:20-16:40   MoIVT7.2

Development of Minimal Grasper: Preliminary Result of a Simple and Flexible Enveloping Grasper, pp. 1779-1784. Attachment

Lee, Young Hoon	Graduate Student
Jin, Jing Fu	Graduate Student
Nam, Changjoo	Graduate Student
Doh, Nakju	Korea Univ.
Kim, Jinhyun	Seoul National Univ. of Tech.

16:40-17:00   MoIVT7.3

Picking up a Towel by Cooperation of Functional Finger Actions, pp. 1785-1790.

Nagata, Kazuyuki	National Inst. of AIST
Yamanobe, Natsuki	Advanced Industrial Science and Tech.

17:00-17:20   MoIVT7.4

Robotic Hand Developed for Both Space Missions on the International Space Station and Commercial Applications on the Ground, pp. 1791-1796.

Ueno, Taihei	Tokyo Inst. of Tech.
Oda, Mitsushige	Japan Aerospace Exploration Agency

17:20-17:40   MoIVT7.5

Grasp Planning by Alignment of Pairwise Shape Descriptors, pp. 1797-1804.

Agovic, Amer	Univ. of Minnesota
Papanikolopoulos, Nikos	Univ. of Minnesota

MoIVT8   Mills 2

Multi-Finger Grasping (Regular Sessions)

Chair: Morales, Antonio	Univ. Jaume I
Co-Chair: Morales, Antonio	Univ. Jaume I

16:00-16:20   MoIVT8.1

Pinching 2D Object with Arbitrary Shape by Two Robot Fingers under Rolling Constraints, pp. 1805-1810. Attachment

Yoshida, Morio	RIKEN
Arimoto, Suguru	Ritsumeikan Univ.
Tahara, Kenji	Kyushu Univ.

16:20-16:40   MoIVT8.2

Robust Sensor-Based Grasp Primitive for a Three-Finger Robot Hand, pp. 1811-1816. Attachment

Felip, Javier	Univ. Jaume I
Morales, Antonio	Univ. Jaume I

16:40-17:00	MoIVT8.3

Heuristic Approach for Multiple Queries of 3D N-Finger Frictional Force Closure Grasp, pp. 1817-1822.

Niparnan, Nattee	Chulalongkorn Univ.
Phoka, Thanathorn	Chulalongkorn Univ.
Sudsang, Attawith	Chulalongkorn Univ.

17:00-17:20	MoIVT8.4

Regrasp Planning in the Grasp Space Using Independent Regions, pp. 1823-1829.

| Roa, Maximo | Tech. Univ. of Catalonia |
| Suarez, Raul | Tech. Univ. of Catalonia |

17:20-17:40	MoIVT8.5

Easy and Fast Evaluation of Grasp Stability by Using Ellipsoidal Approximation of Friction Cone, pp. 1830-1837.

Tsuji, Tokuo	National Inst. of AIST
Harada, Kensuke	National Inst. of AIST
Kaneko, Kenji	National Inst. of AIST

MoIVT9	Mills 3

Micro/Nano Robots and Assembly (Regular Sessions)

| Chair: Gauthier, Michael | FEMTO-ST Inst. |
| Co-Chair: Fukuda, Toshio | Nagoya Univ. |

16:00-16:20	MoIVT9.1

An Empirical Study of the Performance of Active Self-Assembly, pp. 1838-1842.

| Tangchoopong, Thanaphon | USC |
| Requicha, Ari | USC |

16:20-16:40	MoIVT9.2

Implementation of Graspless Handling System for Microparticles Using AFM Probe, pp. 1843-1848. Attachment

Ihn, Yong Seok	SungKyunKwan Univ.
Kim, Yoo Chang	SungKyunKwan Univ.
Choi, Hyouk Ryeol	Sungkyunkwan Univ.
Lee, Sang Mu	kitech
Koo, Ja Choon	Sungkyunkwan Univ.

16:40-17:00	MoIVT9.3

On-Chip Fabrication and Assembly of Rotational Microstructures, pp. 1849-1854.

Ito, Masaki	Nagoya Univ.
Nakajima, Masahiro	Nagoya Univ.
Maruyama, Hisataka	Tohoku Univ.
Fukuda, Toshio	Nagoya Univ.

17:00-17:20	MoIVT9.4

Robotic Microhandling Controlled by Chemical Self-Assembly, pp. 1855-1860.

Dejeu, Jérôme	FEMTO-ST Inst.
Rougeot, Patrick	Univ. of Franche-Comté, FEMTO-ST Inst.
Gauthier, Michael	FEMTO-ST Inst.
Boireau, Wilfrid	FEMTO-ST Inst.

17:20-17:40	MoIVT9.5

Characterization of Vertically Aligned Carbon Nanofibers Grown on Ni Dots Nanoelectrode Array Using Atomic Force Microscopy, pp. 1861-1866.

Dong, Zhuxin	Univ. of Arkansas
Wejinya, Uchechukwu C.	Univ. of Arkansas
Elhajj, Imad	American Univ. of Beirut

MoIVT10	Mills 4

Autonomous Vehicles (Regular Sessions)

| Chair: Yang, Ruoting | Washington Univ. in St. Louis |
| Co-Chair: Martinet, Philippe | Blaise Pascal Univ. |

16:00-16:20	MoIVT10.1

On-Line Reference Trajectory Generation for Manually Convoying a Platoon of Automatic Urban Vehicles, pp. 1867-1872. Attachment

Avanzini, Pierre	Univ. Blaise Pascal
Thuilot, Benoit	Clermont-Ferrand Univ.
Dallej, Tej	LASMEA
Martinet, Philippe	Blaise Pascal Univ.
Derutin, Jean Pierre	LASMEA

16:20-16:40	MoIVT10.2

Passive vs. Aggressive Strategies: A Game Theoretic Analysis of Military Defense, pp. 1873-1878.

Bewick, Sharon	The Univ. of Tennessee, Knoxville
Zhang, Mingjun	Univ. of Tennessee
Hamel, William R.	Univ. of Tennessee
Yang, Ruoting	Washington Univ. in St. Louis

16:40-17:00	MoIVT10.3

Spatiotemporal State Lattices for Fast Trajectory Planning in Dynamic on Road Driving Scenarios, pp. 1879-1884.

| Ziegler, Julius | Univ. of Karlsruhe |

Stiller, Christoph	Univ. Karlsruhe (TH)

17:00-17:20	MoIVT10.4

On the Use of 2D Navigable Maps for Enhancing Ground Vehicle Localization, pp. 1885-1890.

Fouque, Clément	Univ. de Tech. de Compičgne
Bonnifait, Philippe	Univ. of Tech. of Compiegne

17:20-17:40	MoIVT10.5

Sliding Angle Reconstruction and Robust Lateral Control of Autonomous Vehicles in Presence of Lateral Disturbance, pp. 1891-1896.

Fang, Hao	Beijing Inst. of Tech.
Dou, Lihua	Beijing Inst. of Tech.
Chen, Jie	Beijing Inst. of Tech.

MoIVT11	Mills 5
Motion Analysis (Regular Sessions)	
Chair: Fu, Li-Chen	National Taiwan Univ.
Co-Chair: Choi, Sunglok	ETRI

16:00-16:20	MoIVT11.1

Robust Video Stabilization to Outlier Motion Using Adaptive RANSAC, pp. 1897-1902.

Choi, Sunglok	ETRI
Yu, Wonpil	ETRI

16:20-16:40	MoIVT11.2

View-Invariant Analysis of Periodic Motion, pp. 1903-1908.

Ribnick, Evan	Univ. of Minnesota
Papanikolopoulos, Nikos	Univ. of Minnesota

16:40-17:00	MoIVT11.3

Inertial-Aided KLT Feature Tracking for a Moving Camera, pp. 1909-1916.

Hwangbo, Myung	Carnegie Mellon Univ.
Kim, Jun-Sik	Carnegie Mellon Univ.
Kanade, Takeo	Carnegie Mellon Univ.

17:00-17:20	MoIVT11.4

Upper Body Tracking for Human-Machine Interaction with a Moving Camera, pp. 1917-1922.

Chen, Yi-Ru	National Taiwan Univ.
Huang, Cheng-Ming	National Taiwan Univ.
Fu, Li-Chen	National Taiwan Univ.

17:20-17:40	MoIVT11.5

Motion Vision Based Structure Estimation in Forest Environment, pp. 1923-1928.

Kulovesi, Jakke Sakari	Helsinki Univ. of Tech.

MoIVT12	Mills 6
Distributed Robotics: Traffic Control and Exploration (Regular Sessions)	
Chair: Chaimowicz, Luiz	Federal Univ. of Minas Gerais
Co-Chair: de Almeida, Anibal	Univ. of Coimbra

16:00-16:20	MoIVT12.1

Multi-Robot Exploration and Fire Searching, pp. 1929-1934. Attachment

Marjovi, Ali	Univ. of Coimbra
Nunes, João Gonçalo	Inst. of Systems and Robotics (ISR) - Univ. of Coimbra
Marques, Lino	Univ. of Coimbra
de Almeida, Anibal	Univ. of Coimbra

16:20-16:40	MoIVT12.2

Predictive Constrained Gain Scheduling for UGV Path Tracking in a Networked Control System, pp. 1935-1940.

Klingenberg, Bryan	North Carolina State Univ.
Ojha, Unnati	North Carolina State Univ.
Chow, Mo-Yuen	North Carolina State Univ.

16:40-17:00	MoIVT12.3

Cluster Space Collision Avoidance for Mobile Two-Robot Systems, pp. 1941-1948.

Kitts, Christopher	Santa Clara Univ.
Stanhouse, Kyle	Santa Clara Univ.
Chindaphorn, Piya	Santa Clara Univ.

17:00-17:20	MoIVT12.4

Traffic Control for a Swarm of Robots: Avoiding Group Conflicts, pp. 1949-1954. Attachment

Marcolino, Leandro	Federal Univ. of Minas Gerais
Chaimowicz, Luiz	Federal Univ. of Minas Gerais

17:20-17:40	MoIVT12.5

Traffic Control for a Swarm of Robots: Avoiding Target Congestion, pp. 1955-1961. Attachment

Marcolino, Leandro	Federal Univ. of Minas Gerais
Chaimowicz, Luiz	Federal Univ. of Minas Gerais

MoIVT13	Mills 7
Robot Calibration (Regular Sessions)	
Chair: Hirai, Shinichi	Ritsumeikan Univ.

Co-Chair: Liu, Yong	Michigan State Univ.
16:00-16:20	MoIVT13.1

Using Robust Regressions and Residual Analysis to Verify the Reliability of LS Estimation: Application in Robotics, pp. 1962-1967.

Janot, Alexandre	Haption SA
Vandanjon, Pierre Olivier	Lab. Central des Pont et Chaussées
Gautier, Maxime	Univ. de Nantes
16:20-16:40	MoIVT13.2

Modeling and Parameter Identification of Rheological Object Based on FE Method and Nonlinear Optimization, pp. 1968-1973.

Wang, Zhongkui	Ritsumeikan Univ.
Hirai, Shinichi	Ritsumeikan Univ.
16:40-17:00	MoIVT13.3

Configurations and Mathematical Models of Parallel Link Mechanisms Using Multi Drive Linear Motors, pp. 1974-1979. Attachment

Harada, Takashi	Kinki Univ.
Nagase, Motoya	Kinki Univ.
17:00-17:20	MoIVT13.4

Ceiling Beam Screw Removal Using a Robotic Manipulator, pp. 1980-1985.

Biggs, Geoffrey	National Inst. of Advanced Industrial Science and Tech.
Kotoku, Tetsuo	National Inst. of AIST
Tanikawa, Tamio	National Inst. of AIST
17:20-17:40	MoIVT13.5

Identification of the Servomechanism Used for Micro-Displacement, pp. 1986-1991.

Bogdan, Ioana Corina	Paul Verlaine of Metz
Abba, Gabriel	Arts et Métiers ParisTech

MoIVT14	Mills 8
Service Robots (Regular Sessions)	
Chair: Gross, Horst-Michael	Ilmenau Univ. of Tech.
Co-Chair: Kuno, Yoshinori	Saitama Univ.
16:00-16:20	MoIVT14.1

Care-O-Bot 3 - Creating a Product Vision for Service Robot Applications by Integrating Design and Technology, pp. 1992-1998.

Reiser, Ulrich	Fraunhofer IPA
Connette, Christian Pascal	Fraunhofer IPA
Parlitz, Christopher	Fraunhofer IPA
16:20-16:40	MoIVT14.2

Autonomous Planning for Mobile Manipulation Services Based on Multi-Level Robot Skills, pp. 1999-2004.

Weser, Martin	Univ. of Hamburg
Zhang, Jianwei	Univ. of Hamburg
16:40-17:00	MoIVT14.3

TOOMAS: Interactive Shopping Guide Robots in Everyday Use – Final Implementation and Experiences from Long-Term Field Trials, pp. 2005-2012.

Gross, Horst-Michael	Ilmenau Univ. of Tech.
Schroeter, Christof	Ilmenau Univ. of Tech.
Mueller, Steffen	Ilmenau Univ. of Tech.
Koenig, Alexander	Ilmenau Univ. of Tech.
Einhorn, Erik	Ilmenau Tech. Univ.
Martin, Christian	MetraLabs GmbH
Merten, Matthias	MetraLabs GmbH
Bley, Andreas	MetraLabs GmbH
Boehme, Hans-Joachim	Ilmenau Tech. Univ.
17:00-17:20	MoIVT14.4

Robotic Wheelchair Based on Observations of People Using Integrated Sensors, pp. 2013-2018.

Kobayashi, Yoshinori	Saitama Univ.
Kinpara, Yuki	Saitama Univ.
Shibusawa, Tomoo	Saitama Univ.
Kuno, Yoshinori	Saitama Univ.
17:20-17:40	MoIVT14.5

QoS Based Framework for Ubiquitous Robotic Services Composition*, pp. 2019-2026.

Yachir, Ali	Univ. of Paris 12
Tari, Karim	Univ. of Paris 12
Amirat, Yacine	Univ. of Paris 12
Chibani, Abdelghani	Lissi Lab. Paris EST Univ.
Badache, Nadjib	USTHB Univ.

MoIVT15	Sterling 6
Robot Localization I (Regular Sessions)	
Chair: Lee, Ju-Jang	KAIST
Co-Chair: Aghili, Farhad	Canadian Space Agency

16:00-16:20	MoIVT15.1

Evaluation of a MUSIC-Based Real-Time Sound Localization of Multiple Sound Sources in Real Noisy Environments, pp. 2027-2032.
Attachment

Ishi, Carlos Toshinori	ATR
Chatot, Olivier	MIT
Ishiguro, Hiroshi	Osaka Univ.
Hagita, Norihiro	ATR

16:20-16:40	MoIVT15.2

Evaluating Real-Time Audio Localization Algorithms for Artificial Audition in Robotics, pp. 2033-2038.

Badali, Anthony P	Univ. of Toronto
Valin, Jean Marc	Octasic Inc.
Michaud, Francois	Univ. de Sherbrooke
Aarabi, Parham	Univ. of Toronto

16:40-17:00	MoIVT15.3

Mobile Robot Localization in Indoor Environment Using RFID and Sonar Fusion System, pp. 2039-2044.

Choi, Byoung-Suk	KAIST
Lee, Ju-Jang	KAIST

17:00-17:20	MoIVT15.4

Attitude Determination and Localization of Mobile Robots Using Two RTK GPSs and IMU, pp. 2045-2052.

Aghili, Farhad	Canadian Space Agency
Salerno, Alessio	Canadian Space Agency

17:20-17:40	MoIVT15.5

Preliminary Deep Water Results in Single-Beacon One-Way-Travel-Time Acoustic Navigation for Underwater Vehicles, pp. 2053-2060.

Webster, Sarah E.	Johns Hopkins Univ.
Eustice, Ryan	Univ. of Michigan
Singh, Hanumant	Woods Hole Oceanographic Inst.
Whitcomb, Louis	The Johns Hopkins Univ.

MoIVT16	Sterling 7
SLAM: Theory (Regular Sessions)	

Chair: Aghamohammadi, Ali Akbar	Texas A&M Univ.
Co-Chair: Oh, Se-Young	POSTECH

16:00-16:20	MoIVT16.1

On the Nonlinear Observability and the Information Form of the SLAM Problem, pp. 2061-2068.

Perera, Linthotage Dushantha Lochana	The Univ. of Sydney
Nettleton, Eric	The Univ. of Sydney

16:20-16:40	MoIVT16.2

SLAM in O(log N) with the Combined Kalman - Information Filter, pp. 2069-2076. Attachment

Cadena Lerma, Cesar Dario	Univ. of Zaragoza
Neira, José	Univ. de Zaragoza

16:40-17:00	MoIVT16.3

Measurement Noise Estimator Assisted Extended Kalman Filter for SLAM Problem, pp. 2077-2082.

Choi, Won-Seok	POhang Univ. of Science and Tech. (POSTECH)
Kang, Jeong Gwan	POSTECH(Pohang Univ. of Science and Tech.
Oh, Se-Young	POSTECH

17:00-17:20	MoIVT16.4

On the Consistency of EKF-SLAM: Focusing on the Observation Models, pp. 2083-2088.

Tamjidi, Amir Hossein	K.N. Toosi Univ. of Tech.
Taghirad, Hamid	K.N.Toosi Univ. of Tech.
Aghamohammadi, Ali Akbar	Texas A&M Univ.

17:20-17:40	MoIVT16.5

A Comparison of SLAM Algorithms Based on a Graph of Relations, pp. 2089-2095.

Burgard, Wolfram	Univ. of Freiburg
Stachniss, Cyrill	Univ. of Freiburg
Grisetti, Giorgio	Unviersität Freiburg
Steder, Bastian	Univ. of Freiburg
Kuemmerle, Rainer	Univ. of Freiburg
Dornhege, Christian	Univ. of Freiburg
Ruhnke, Michael	Univ. of Freiburg
Kleiner, Alexander	Univ. of Freiburg
Tardos, Juan D.	Univ. de Zaragoza

TuIT1	Grand A
Motion Control (Regular Sessions)	

Chair: Hoffmann, Alwin	Univ. of Augsburg
Co-Chair: Orin, David	The Ohio State Univ.

09:10-09:30	TuIT1.1

Modeling Mobile Robot Motion with Polar Representations, pp. 2096-2101.

Djugash, Joseph	Carnegie Mellon Univ.

Singh, Sanjiv	Carnegie Mellon Univ.
Grocholsky, Ben	Carnegie Mellon Univ.

09:30-09:50 — TuIT1.2

Fuzzy Logic Based Adjustment Control of a Cable-Driven Auto-Leveling Parallel Robot, pp. 2102-2107.

Yu, Yi	Chinese Acad. of Science
Yi, Jianqiang	Chinese Acad. of Science
Li, Chengdong	Chinese Acad. of Science
Zhao, Dongbin	Chinese Acad. of Sciences
Zhang, Jianhong	Chinese Acad. of Sciences

09:50-10:10 — TuIT1.3

Hiding Real-Time: A New Approach for the Software Development of Industrial Robots, pp. 2108-2113.

Hoffmann, Alwin	Univ. of Augsburg
Angerer, Andreas	Univ. of Augsburg
Ortmeier, Frank	Univ. of Augsburg
Vistein, Michael	Univ. of Augsburg
Reif, Wolfgang	Univ. of Augsburg

10:10-10:30 — TuIT1.4

Nonlinear Dual Mode Adaptive Control of PAR2 : A 2-Dof Planar Parallel Manipulator, with Real-Time Experiments, pp. 2114-2119.
Attachment

Sartori Natal, Guilherme	LIRMM, Univ. of Montpellier 2
Chemori, Ahmed	LIRMM
Pierrot, François	CNRS - LIRMM
Company, Olivier	Univ. of Montpellier 2

TuIT2 — Grand B
Fish-Like Robot (Regular Sessions)

Chair: Tangorra, James	Drexel Univ.
Co-Chair: Tan, Xiaobo	Michigan State Univ.

09:10-09:30 — TuIT2.1

Biorobotic Fins for Investigations of Fish Locomotion, pp. 2120-2125.

Tangorra, James	Drexel Univ.
Esposito, Christopher	Drexel Univ.
Lauder, George	Harvard Univ.

09:30-09:50 — TuIT2.2

Analytical and Computational Modeling of Robotic Fish Propelled by Soft Actuation Material-Based Active Joints, pp. 2126-2131.

Anton, Mart	Tartu Univ.
Chen, Zheng	Michigan State Univ.
Kruusmaa, Maarja	Tallinn Univ. of Tech.
Tan, Xiaobo	Michigan State Univ.

09:50-10:10 — TuIT2.3

Locomotion Planning for Biomimetic Robotic Fish with Multi-Joint Actuation, pp. 2132-2137.

Zhou, Chunlin	Nanyang Tech. Univ.
Low, K. H.	Nanyang Tech. Univ.

10:10-10:30 — TuIT2.4

Design of a Robotic Fish Propelled by Oscillating Flexible Pectoral Foils, pp. 2138-2142.

Cai, Yueri	Beijing Univ. of Aeronautics and Astronautics
Bi, Shusheng	Beihang Univ. of Aeronatics and Astronautics
Zhang, Lige	Beihang Univ. of Aeronautics and Astronautics
Gao, Jun	Beijing Univ. of Aeronautics and Astronautics

TuIT3 — Grand C
Medical Robotics III (Regular Sessions)

Chair: Röse, Andreas	Tech. Univ. Darmstadt
Co-Chair: Hamel, William R.	Univ. of Tennessee

09:10-09:30 — TuIT3.1

An Analysis Framework for Near Infrared Spectroscopy Based Brain-Computer Interface and Prospective Application to Robotic Surgery, pp. 2143-2148.

Caproni, Marco	Univ. di Pisa
Orihuela-Espina, Felipe	Imperial Coll. London
James, David R C	Imperial Coll. London
Menciassi, Arianna	Scuola Superiore Sant'Anna - SSSA
Dario, Paolo	Scuola Superiore Sant'Anna
Darzi, Ara	Imperial Coll. London
Yang, Guang-Zhong	Imperial Coll. London

09:30-09:50 — TuIT3.2

Development of a Miniature Robot for Hearing Aid Implantation, pp. 2149-2154.

Salzmann, Jonas	Univ. of Bern
Zheng, Guoyan	Univ. of Bern
Gerber, Nicolas	Univ. of Bern
Stieger, Christof	Univ. of Bern

Caversaccio, Marco	Univ. of Bern
Nolte, Lutz-Peter	Univ. of Bern
Weber, Stefan	Univ. of Bern
Arnold, Andreas Michael	Inselspital
Rohrer, Urs	Univ. of Bern

09:50-10:10   **TuIT3.3**

Parameter Setting Method Considering Variation of Organ Stiffness for the Control Method to Prevent Overload at Fragile Tissue, pp. 2155-2161.

Kobayashi, Yo	Waseda Univ.
Kato, Atsushi	Waseda Univ.
Hoshi, Takeharu	Waseda Univ.
Kawamura, Kazuya	Waseda Univ.
Fujie, Masakatsu G.	Waseda Univ.

10:10-10:30   **TuIT3.4**

A Novel Piezoelectric Driven Laparoscopic Instrument with Multiple Degree of Freedom Parallel Kinematic Structure, pp. 2162-2167. Attachment

Röse, Andreas	Tech. Univ. Darmstadt
Wohlleber, Cédric	Tech. Univ. Darmstadt
Kassner, Sebastian	Tech. Univ. Darmstadt
Schlaak, Helmut F.	Tech. Univ. Darmstadt
Werthschützky, Roland	Univ. of Tech. Darmstadt

TuIT4	Grand F
Laser Ranging Applications (Regular Sessions)	
Chair: Collins, Emmanuel	FAMU-FSU Coll. of Engineering
Co-Chair: Shimosaka, Masamichi	Univ. of Tokyo

09:10-09:30   **TuIT4.1**

Adaptive Sensing System for Human Detecting with Dynamic Disposition, pp. 2168-2173.

Kawata, Hirohiko	Univ. of Tsukuba
Kohno, Hiroaki	Univ. of Tsukuba
Ohya, Akihisa	Univ. of Tsukuba
Yuta, Shinichi	Univ. of Tsukuba

09:30-09:50   **TuIT4.2**

Terrain Surface Classification for Autonomous Ground Vehicles Using a 2D Laser Stripe-Based Structured Light Sensor, pp. 2174-2181.

Lu, Liang	FAMU-FSU Coll. of Engineering
Ordonez, Camilo	Florida State Univ.
Collins, Emmanuel	FAMU-FSU Coll. of Engineering
DuPont, Edmond	FAMU-FSU Coll. of Engineering

09:50-10:10   **TuIT4.3**

Objective Evaluation of Scanning Ladar Configurations for Mobile Robots, pp. 2182-2189.

Desai, Ankit	Carnegie Mellon Univ.
Huber, Daniel	CMU

10:10-10:30   **TuIT4.4**

Pose Estimation of Multiple People Using Contour Features from Multiple Laser Range Finders, pp. 2190-2196. Attachment

Matsumoto, Takashi	The Univ. of Tokyo
Shimosaka, Masamichi	Univ. of Tokyo
Noguchi, Hiroshi	The Univ. of Tokyo
Sato, Tomomasa	The Univ. of Tokyo
Mori, Taketoshi	The Univ. of Tokyo

TuIT5	Grand G
Sensors Networks (Regular Sessions)	
Chair: Lin, Pei-Chun	National Taiwan Univ.
Co-Chair: Luo, Ren C.	National Taiwan Univ.

09:10-09:30   **TuIT5.1**

Design and Implementation of a 12-Axis Accelerometer Suite, pp. 2197-2202.

Ho, Chi-Wei	National Taiwan Univ.
Lin, Pei-Chun	National Taiwan Univ.

09:30-09:50   **TuIT5.2**

Multi-Sensor Fusion for Reduced Uncertainty in Autonomous Mobile Robot Docking and Recharging, pp. 2203-2208.

Luo, Ren	National Taiwan Univ.
Liao, Chung T.	National Chung Cheng Univ.
Lin, Shih Chi	National Chung Cheng Univ.

09:50-10:10   **TuIT5.3**

Multi-Robot Active Target Tracking with Distance and Bearing Observations, pp. 2209-2216.

Zhou, Ke	Univ. of Minnesota
Roumeliotis, Stergios	Univ. of Minnesota

10:10-10:30   **TuIT5.4**

Development of a Miniature Self-Stabilization Jumping Robot, pp. 2217-2222.

Zhao, Jianguo	Michigan State Univ.

Yang, Ruiguo	Michigan State Univ.
Xi, Ning	Michigan State Univ.
Gao, Bingtuan	Michigan State Univ.
Fan, Xinggang	Zhejiang Univ. of Tech.
Mutka, Matt	Michigan State Uinversity
Xiao, Li	Michigan State Univ.

TuIT6   Grand H

Bio-Inspired Robots (Regular Sessions)

Chair: Dong, Lixin	Michigan State Univ.
Co-Chair: Kim, Sangbae	Massachusetts Inst. of Tech.

09:10-09:30   TuIT6.1

Development of Novel Molecular Robots Fueled by Organic Acid, pp. 2223-2227.

Hara, Yusuke	Waseda Univ.
Maeda, Shingo	Waseda Univ.
Yoshida, Ryo	The Univ. of Tokyo
Hashimoto, Shuji	Waseda Univ.

09:30-09:50   TuIT6.2

Micro Artificial Muscle Fiber Using NiTi Spring for Soft Robotics, pp. 2228-2234. Attachment

Kim, Sangbae	Massachusetts Inst. of Tech.
Hawkes, Elliot Wright	School of Engineering and Applied Scinces, Harvard
Cho, Kyu-Jin	Seoul National Univ.
Jolda, Matthew	iRobot, Wentworth Inst. of Tech.
Foley, Joseph Timothy	iRobot
Wood, Robert	Harvard Univ.

09:50-10:10   TuIT6.3

Self-Adapting Robot Arm Movement Employing Neural Oscillators, pp. 2235-2242.

Yang, Woosung	Korea Inst. of Science & Tech.
Bae, Ji-Hun	Korea Inst. of Science and Tech.
Kwon, JaeSung	Korea Inst. of Science and Tech.
Chong, Nak Young	Japan Advanced Inst. of Sci. and Tech.
Oh, Yonghwan	KIST
You, Bum Jae	KIST

10:10-10:30   TuIT6.4

Insect-Like Mapless Navigation Based on Head Direction Cells and Contextual Learning Using Chemo-Visual Sensors, pp. 2243-2250.
Attachment

Mathews, Zenon	Univ. Pompeu Fabra
Lechón, Miguel	Univ. Pompeu Fabra
Blanco M.C., Jose	Univ. Pompeu Fabra
Dhir, Anant	Univ. Pompeu Fabra
Duff, Armin	Univ. Pompeu Fabra
Bermudez i Badia, Sergi	Univ. Pompeu Fabra (UPF)
Verschure, Paul	Catalan Inst. of Advanced Studies (ICREA), Foundation

TuIT7   Mills 1

Robot Hand (Regular Sessions)

Chair: Sugano, Shigeki	Waseda Univ.
Co-Chair: Fujie, Masakatsu G.	Waseda Univ.

09:10-09:30   TuIT7.1

Development of Drum CVT for a Wire-Driven Robot Hand, pp. 2251-2256.

Matsushita, Kojiro	The Univ. of Tokyo
Shikanai, Shimpei	The Univ. of Tokyo
Yokoi, Hiroshi	The Univ. of Tokyo

09:30-09:50   TuIT7.2

Dynamic Force/Torque Equilibrium for Stable Grasping by a Triple Robotic Fingers System, pp. 2257-2263. Attachment

Tahara, Kenji	Kyushu Univ.
Arimoto, Suguru	Ritsumeikan Univ.
Yoshida, Morio	RIKEN

09:50-10:10   TuIT7.3

Dynamic Grasping for an Arbitrary Polyhedral Object by a Multi-Fingered Hand-Arm System, pp. 2264-2270.

Kawamura, Akihiro	Kyushu Univ.
Tahara, Kenji	Kyushu Univ.
Kurazume, Ryo	Kyushu Univ.
Hasegawa, Tsutomu	Kyushu Univ.

10:10-10:30   TuIT7.4

NAIST Hand 2: Human-Sized Anthropomorphic Robot Hand with Detachable Mechanism at the Wrist, pp. 2271-2276.

Kurita, Yuichi	Nara Inst. of Science and Tech.
Ono, Yasuhiro	Nara Inst. of Science and Tech.
Ikeda, Atsutoshi	Nara Inst. of Science and Tech.
Ogasawara, Tsukasa	Nara Inst. of Science and Tech.

TuIT8	Mills 2
Robot Audition III (Invited Sessions)	

Chair: Nakadai, Kazuhiro	Honda Res. Inst. Japan Co., Ltd.
Co-Chair: Okuno, Hiroshi G.	Kyoto Univ.

09:10-09:30	TuIT8.1

Step-Size Parameter Adaptation of Multi-Channel Semi-Blind ICA with Piecewise Linear Model for Barge-In-Able Robot Audition (I), pp. 2277-2282.

Takeda, Ryu	Kyoto Univ.
Nakadai, Kazuhiro	Honda Res. Inst. Japan Co., Ltd.
Takahashi, Toru	Kyoto Univ.
Komatani, Kazunori	Kyoto Univ.
Ogata, Tetsuya	Kyoto Univ.
Okuno, Hiroshi G.	Kyoto Univ.

09:30-09:50	TuIT8.2

Underwater Transient and Non Transient Signals Classification Using Predictive Neural Networks (I), pp. 2283-2288.

Guo, Yan	Paris 6 Univ.
Gas, Bruno	Univ. Pierre et Marie Curie

09:50-10:10	TuIT8.3

Incremental Polyphonic Audio to Score Alignment Using Beat Tracking for Singer Robots (I), pp. 2289-2296.

Otsuka, Takuma	Kyoto Univ.
Murata, Kazumasa	Tokyo Inst. of Tech.
Nakadai, Kazuhiro	Honda Res. Inst. Japan Co., Ltd.
Takahashi, Toru	Kyoto Univ.
Komatani, Kazunori	Kyoto Univ.
Ogata, Tetsuya	Kyoto Univ.
Okuno, Hiroshi G.	Kyoto Univ.

10:10-10:30	TuIT8.4

Thereminist Robot: Development of a Robot Theremin Player with Feedforward and Feedback Arm Control Based on a Theremin's Pitch Model (I), pp. 2297-2302.

Mizumoto, Takeshi	Kyoto Univ.
Tsujino, Hiroshi	Honda Res. Inst. Co., Ltd.
Takahashi, Toru	Kyoto Univ.
Ogata, Tetsuya	Kyoto Univ.
Okuno, Hiroshi G.	Kyoto Univ.

TuIT9	Mills 3
Entertainment Robotics (Regular Sessions)	

Chair: Nemec, Bojan	Jozef Stefan Inst.
Co-Chair: Yam, Yeung	The Chinese Univ. of Hong Kong

09:10-09:30	TuIT9.1

Development of a Aural Real-Time Rhythmical and Harmonic Tracking to Enable the Musical Interaction with the Waseda Flutist Robot, pp. 2303-2308. Attachment

Petersen, Klaus	Waseda Univ.
Solis, Jorge	Waseda Univ.
Takanishi, Atsuo	Waseda Univ.

09:30-09:50	TuIT9.2

Development of Anthropomorphic Musical Performance Robots: From Understanding the Nature of Music Performance to Its Application to Entertainment Robotics, pp. 2309-2314. Attachment

Solis, Jorge	Waseda Univ.
Petersen, Klaus	Waseda Univ.
Ninomiya, Takeshi	Waseda Univ.
Takeuchi, Masaki	Waseda Univ.
Takanishi, Atsuo	Waseda Univ.

09:50-10:10	TuIT9.3

Stroke Trajectory Generation Experiment for a Robotic Chinese Calligrapher Using a Geometric Brush Footprint Model, pp. 2315-2320.

Lam, Josh H.M.	The Chinese Univ. of Hong Kong
Yam, Yeung	The Chinese Univ. of Hong Kong

10:10-10:30	TuIT9.4

Control and Navigation of the Skiing Robot, pp. 2321-2326. Attachment

Nemec, Bojan	Jozef Stefan Inst.
Lahajnar, Leon	Jozef Stefan Inst.

TuIT10	Mills 4
Education Robotics (Regular Sessions)	

Chair: Sanghvi, Saurabh	Carnegie Mellon Univ.
Co-Chair: Voorhies, Randolph	Univ. of Southern California

09:10-09:30	TuIT10.1

Enhancing an Automated Braille Writing Tutor, pp. 2327-2333.

Dias, M. Bernardine	Carnegie Mellon Univ.

Dias, M. Freddie	Carnegie Mellon Univ.
Belousov, Sarah	Carnegie Mellon Univ.
Rahman, Mohammed Kaleemur	Carnegie Mellon Univ.
Sanghvi, Saurabh	Carnegie Mellon Univ.
El-Moughny, Noura	Carnegie Mellon Univ. in Qatar

09:30-09:50	TuIT10.2

Centralized Server Environment for Educational Robotics, pp. 2334-2340.

Voorhies, Randolph	Univ. of Southern California
Siagian, Christian	Univ. of Southern California
Elazary, Lior	Univ. of Southern California
Itti, Laurent	Univ. of Southern California

09:50-10:10	TuIT10.3

Robotics Education: Development of Cheap and Creative EMG Prosthetic Applications, pp. 2341-2346.

Matsushita, Kojiro	The Univ. of Tokyo
Yokoi, Hiroshi	The Univ. of Tokyo

10:10-10:30	TuIT10.4

Development of the Two-Wheeled Inverted Pendulum Type Mobile Robot WV-2R for Educational Purposes, pp. 2347-2352. Attachment

Solis, Jorge	Waseda Univ.
Nakadate, Ryu	Takanishi Lab. Faculty of Science and Engineering, Waseda
Yoshimura, Yuki	Waseda Univ.
Hama, Yuichiro	Waseda Univ.
Takanishi, Atsuo	Waseda Univ.

TuIT11	Mills 5

Space Robotics I (Regular Sessions)

Chair: Nagatani, Keiji	Tohoku Univ.
Co-Chair: Aghili, Farhad	Canadian Space Agency

09:10-09:30	TuIT11.1

Robust Adaptive Composite Control of Space-Based Robot System with Uncertain Parameters and External Disturbances, pp. 2353-2358.

Chen, Zhiyong	Fuzhou Univ.
Chen, Li	Fuzhou Univ.

09:30-09:50	TuIT11.2

Adaptive Control for a Torque Controlled Free-Floating Space Robot with Kinematic and Dynamic Model Uncertainty, pp. 2359-2364.

Abiko, Satoko	Tohoku Univ.
Hirzinger, Gerd	German Aerospace Center (DLR)

09:50-10:10	TuIT11.3

Coordination Control of a Free-Flying Manipulator and Its Base Attitude to Capture and Detumble a Noncooperative Satellite, pp. 2365-2372.

Aghili, Farhad	Canadian Space Agency

10:10-10:30	TuIT11.4

Accurate Estimation of Drawbar Pull of Wheeled Mobile Robots Traversing Sandy Terrain Using Built-In Force Sensor Array Wheel, pp. 2373-2378.

Nagatani, Keiji	Tohoku Univ.
Ikeda, Ayako	Tohoku Univ.
Sato, Keisuke	Tohoku Univ.
Yoshida, Kazuya	Tohoku Univ.

TuIT12	Mills 6

Robots with Emerging Technologies I (Regular Sessions)

Chair: Toyama, Shigeki	TUAT
Co-Chair: Yao, Shuangji	School of Automation Science and Electrical Engineering,Beihang Univ.

09:10-09:30	TuIT12.1

Development of Spherical Ultrasonic Motor As a Camera Actuator for Pipe Inspection Robot, pp. 2379-2384. Attachment

Hoshina, Masahiko	Tokyo Univ. of Agriculture and Tech.
Mashimo, Tomoaki	Carnegie Mellon Univ.
Toyama, Shigeki	TUAT

09:30-09:50	TuIT12.2

Development of Novel Robots with Modularization Methodology, pp. 2385-2390.

Guan, Yisheng	South China Univ. of Tech.
Zhang, Xianmin	South China Univ. of Tech.
Jiang, Li	South China Univ. of Tech.
Zhang, Hong	Univ. of Alberta

09:50-10:10	TuIT12.3

Analysis and Optimal Design of a Modular Underactuated Mechanism for Robot Fingers, pp. 2391-2396.

Yao, Shuangji	School of Automation Science and Electrical Engineering,Beihang
Wu, Licheng	Tsinghua Univ. Beijing, P.R.China
Ceccarelli, Marco	LARM, Univ. of Cassino
Carbone, Giuseppe	LARM, Univ. of Cassino
Lu, Zhen	School of Automation Science and Electrical Engineering,Beihang

10:10-10:30   TuIT12.4

DSP/FPGA-Based Highly Integrated Flexible Joint Robot, pp. 2397-2402.

Xie, Zongwu	Harbin Inst. of Tech.
Zhao, Jingdong	Harbin Inst. of Tech.
Huang, Jianbin	Harbin Inst. of Tech. China
Sun, Kui	Harbin Inst. of Tech.
Xiong, Genliang	Harbin Inst. of Tech.
Liu, Hong	DLR

TuIT13   Mills 7
Robot Control III (Regular Sessions)

Chair: Asama, Hajime	The Univ. of Tokyo
Co-Chair: Watanabe, Wataru	Tohoku Univ.

09:10-09:30   TuIT13.1

Improvement of Adaptive Cruise Control System Based on Speed Characteristics and Time Headway, pp. 2403-2408.

Parnichkun, Manukid	Asian Inst. of Tech.

09:30-09:50   TuIT13.2

Adaptive Division of Labor Control for Robot Group, pp. 2409-2414.

Ikemoto, Yusuke	Univ. of Toyo
Miura, Toru	Hokkaido Univ.
Asama, Hajime	The Univ. of Tokyo

09:50-10:10   TuIT13.3

Online Hand Gesture Recognition Using Neural Network Based Segmentation, pp. 2415-2420.

Zhu, Chun	Oklahoma State Univ.
Sheng, Weihua	Oklahoma State Univ.

10:10-10:30   TuIT13.4

A Fully Decentralized Control of a Serpentine Robot Based on the Discrepancy between Body, Brain and Environment, pp. 2421-2426.
Attachment

Watanabe, Wataru	Tohoku Univ.
Sato, Takahide	Tohoku Univ.
Ishiguro, Akio	Tohoku Univ.

TuIT14   Mills 8
Nonholonomic Motion Planning (Regular Sessions)

Chair: Sucan, Ioan Alexandru	Rice Univ.
Co-Chair: Wilde, Doran	Brigham Young Univ.

09:10-09:30   TuIT14.1

Kinodynamic Motion Planning for Mobile Robots Using Splines, pp. 2427-2433.

Lau, Boris	Univ. of Freiburg
Sprunk, Christoph	Univ. of Freiburg
Burgard, Wolfram	Univ. of Freiburg

09:30-09:50   TuIT14.2

On the Performance of Random Linear Projections for Sampling-Based Motion Planning, pp. 2434-2439.

Sucan, Ioan Alexandru	Rice Univ.
Kavraki, Lydia	Rice Univ.

09:50-10:10   TuIT14.3

Computing Clothoid Segments for Trajectory Generation, pp. 2440-2445.

Wilde, Doran	Brigham Young Univ.

10:10-10:30   TuIT14.4

The Surface Walker: A Hemispherical Mobile Robot with Rolling Contact Constraint, pp. 2446-2451. Attachment

Ishikawa, Masato	Kyoto Univ.
Kobayashi, Yoshinori	Kyoto Univ.
Kitayoshi, Ryouhei	Kyoto Univ.
Toshiharu, Sugie	Kyoto Univ.

TuIT15   Sterling 6
Path Planning for Multi-Arm Systems (Regular Sessions)

Chair: Huang, Han-Pang	National Taiwan Univ.
Co-Chair: Simeon, Thierry	LAAS-CNRS

09:10-09:30   TuIT15.1

Smooth Proximity Computation for Collision-Free Optimal Control of Multiple Robotic Manipulators, pp. 2452-2457.

Cascio, Joe	Naval Postgraduate School
Karpenko, Mark	Naval Postgraduate School
Gong, Qi	Univ. of California, Santa Cruz
Sekhavat, Pooya	Naval Postgraduate School
Ross, Isaac	naval postgraduate school

09:30-09:50   TuIT15.2

Motion Planning of a Dual-Arm Mobile Robot in the Configuration-Time Space, pp. 2458-2463.

Tsai, Yi-Chih	National Taiwan Univ.

Huang, Han-Pang	National Taiwan Univ.

09:50-10:10 — TuIT15.3

Humanoid Motion Planning for Dual-Arm Manipulation and Re-Grasping Tasks, pp. 2464-2470.

Vahrenkamp, Nikolaus	Univ. of Karlsruhe
Berenson, Dmitry	Carnegie Mellon Univ.
Asfour, Tamim	Univ. of Karlsruhe
Kuffner, James	Carnegie Mellon Univ.
Dillmann, Rüdiger	Univ. of Karlsruhe

10:10-10:30 — TuIT15.4

Roadmap Composition for Multi-Arm Systems Path Planning, pp. 2471-2476.

Gharbi, Mokhtar	LAAS-CNRS
Cortes, Juan	LAAS-CNRS
Simeon, Thierry	LAAS-CNRS

TuIT16 — Regency D

Visual Tracking I (Regular Sessions)

Chair: Zhou, Yu	SUNY at Stony Brook
Co-Chair: Fransen, Benjamin R.	Beyond Robotics, Inc.

09:10-09:30 — TuIT16.1

Vision-Based Estimation of Three-Dimensional Position and Pose of Multiple Underwater Vehicles, pp. 2477-2482.

Butail, Sachit	Univ. of Maryland
Paley, Derek	Princeton Univ.

09:30-09:50 — TuIT16.2

Real-Time Face and Object Tracking, pp. 2483-2488. Attachment

Fransen, Benjamin R.	Beyond Robotics, Inc.
Herbst, Evan	Univ. of Washington
Harrison, Anthony	Naval Res. Lab.
Adams, William	US Naval Res. Lab.
Trafton, Greg	Naval Res. Lab.

09:50-10:10 — TuIT16.3

Mobile Robotic Dynamic Tracking for Assembly Tasks, pp. 2489-2495.

Hamner, Brad	Carnegie Mellon Univ.
Koterba, Seth	Carengie Mellon Univ.
Shi, Jane	GM R&D Center
Simmons, Reid	Carnegie Mellon Univ.
Singh, Sanjiv	Carnegie Mellon Univ.

10:10-10:30 — TuIT16.4

Online 3-D Trajectory Estimation of a Flying Object from a Monocular Image Sequence, pp. 2496-2501.

Herrejon, Rafael	Tohoku Univ.
Kagami, Shingo	Tohoku Univ.
Hashimoto, Koichi	Tohoku Univ.

TuIIT1 — Grand A

Humanoid Robot Motion Control (Regular Sessions)

Chair: Yamane, Katsu	Disney
Co-Chair: Chalodhorn, Rawichote	Univ. of Washington

10:50-11:10 — TuIIT1.1

Using Eigenposes for Lossless Periodic Human Motion Imitation, pp. 2502-2509. Attachment

Chalodhorn, Rawichote	Univ. of Washington
Rao, Rajesh P. N.	Univ. of Washington

11:10-11:30 — TuIIT1.2

Simultaneous Tracking and Balancing of Humanoid Robots for Imitating Human Motion Capture Data, pp. 2510-2517. Attachment

Yamane, Katsu	Disney
Hodgins, Jessica	Carnegie Mellon Univ.

11:30-11:50 — TuIIT1.3

Stable Whole-Body Motion Generation for Humanoid Robots to Imitate Human Motions, pp. 2518-2524. Attachment

Kim, Seungsu	EPFL
Kim, ChangHwan	Korea Inst. of Science and Tech.
You, Bum Jae	KIST
Oh, Sang-Rok	MIC

11:50-12:10 — TuIIT1.4

A Robotic Closed-Loop Scheme to Model Human Postural Coordination, pp. 2525-2530.

Bonnet, Vincent	Lirmm
Fraisse, Philippe	LIRMM
Ramdani, Nacim	INRIA Sophia Antipolis - Méditerranée
Lagarde, Julien	Univ. Montpellier 1
Ramdani, Sofiane	Univ. Montpellier 1
Bardy, Benoit	Univ. Montpellier 1

12:10-12:30   TuIIT1.5
Analyzing the "Knack" of Human Piggyback Motion Based on Simultaneous Measurement of Tactile and Movement Data As a Basis for Humanoid Control, pp. 2531-2536.
  Ogata, Kunihiro   The Univ. of Tokyo
  Shiramatsu, Daisuke   the Univ. of Tokyo
  Ohmura, Yoshiyuki   The Univ. of Tokyo
  Kuniyoshi, Yasuo   The Univ. of Tokyo

TuIIT2   Grand B
Human Robot Interaction III (Regular Sessions)
  Chair: Bobick, Aaron   Georgia Tech.
  Co-Chair: Nakamura, Yoshihiko   Univ. of Tokyo

10:50-11:10   TuIIT2.1
Unsupervised Simultaneous Learning of Gestures, Actions and Their Associations for Human-Robot Interaction, pp. 2537-2544.
  Mohammad, Yasser F. O.   Kyoto Univ.
  Nishida, Toyoaki   Kyoto Univ.
  Okada, Shogo   Kyoto Univ.

11:10-11:30   TuIIT2.2
Incremental Learning of Integrated Semiotics Based on Linguistic and Behavioral Symbols, pp. 2545-2550. Attachment
  Takano, Wataru   Tokyo Univ.
  Nakamura, Yoshihiko   Univ. of Tokyo

11:30-11:50   TuIIT2.3
Effective Robot Task Learning by Focusing on Task-Relevant Objects, pp. 2551-2556.
  Lee, Kyu Hwa   Georgia Inst. of Tech.
  Lee, Jinhan   Georgia Inst. of Tech.
  Thomaz, Andrea Lockerd   Georgia Inst. of Tech.
  Bobick, Aaron   Georgia Tech.

11:50-12:10   TuIIT2.4
Binaural Sound Localization Based on Sparse Coding and SOM, pp. 2557-2562.
  Kim, Hong Shik   KIST (Korea Inst. of Science and Tech.
  Choi, Jong Suk   Korea Inst. of Sci. and Tech.

12:10-12:30   TuIIT2.5
Persuasive Robotics: The Influence of Robot Gender on Human Behavior, pp. 2563-2568.
  Siegel, Mikey   Massachusetts Inst. of Tech.
  Breazeal, Cynthia   MIT
  Norton, Michael   Harvard Business School

TuIIT3   Grand C
Biomedical Mechatronics (Invited Sessions)
  Chair: Noakes, Mark W   Oak Ridge National Lab.

10:50-11:10   TuIIT3.1
Active Tracking Control between a Bio-Robot and a Human Subject (I), pp. 2569-2574.
  Nycz, Andrzej   The Univ. of Tennessee
  Hamel, William R.   Univ. of Tennessee

11:10-11:30   TuIIT3.2
Multi-Axis Foot Reaction Force/Torque Sensor for Biomedical Applications (I), pp. 2575-2579.
  Lind, Randall   Oak Ridge Natonal Lab.
  Love, Lonnie J.   Oak Ridge National Lab.
  Rowe, John   Oak Ridge National Lab.
  Pin, François   Oak Ridge National Lab.

11:30-11:50   TuIIT3.3
Development of a Remote Trauma Care Assist Robot (I), pp. 2580-2585.
  Noakes, Mark W   Oak Ridge National Lab.
  Lind, Randall   Oak Ridge Natonal Lab.
  Jansen, John   Oak Ridge National Lab.
  Love, Lonnie J.   Oak Ridge National Lab.
  Pin, François   Oak Ridge National Lab.
  Richardson, Bradley   Oak Ridge National Lab.

11:50-12:10   TuIIT3.4
Mesofluidic Actuation for Articulated Finger and Hand Prosthetics (I), pp. 2586-2591.
  Love, Lonnie J.   Oak Ridge National Lab.
  Lind, Randall   Oak Ridge Natonal Lab.
  Jansen, John   Oak Ridge National Lab.

12:10-12:30   TuIIT3.5
Force-Based Needle Insertion for Medical Applications (I), pp. 2592-2597.
  Love, Lonnie J.   Oak Ridge National Lab.
  Jansen, John   Oak Ridge National Lab.
  Lloyd, Peter   Oak Ridge National Lab.

TuIIT4	Grand F
Learning I (Regular Sessions)	

Chair: Saegusa, Ryo	Italian Inst. of Tech.
Co-Chair: Kobayashi, Toshiharu	Hosei Univ.

10:50-11:10	TuIIT4.1

Active Learning for Multiple Sensorimotor Coordination Based on State Confidence, pp. 2598-2603. Attachment

Saegusa, Ryo	Italian Inst. of Tech.
Metta, Giorgio	Univ. of Genoa
Sandini, Giulio	Italian Inst. of Tech.

11:10-11:30	TuIIT4.2

Bayesian Reinforcement Learning in Continuous POMDPs with Gaussian Processes, pp. 2604-2609.

Dallaire, Patrick	Univ. Laval
Ross, Stephane	McGill Univ.
Chaib-draa, Brahim	Laval Univ.
Besse, Camille	Univ. Laval

11:30-11:50	TuIIT4.3

Active Learning Using Mean Shift Optimization for Robot Grasping, pp. 2610-2615.

Kroemer, Oliver	Max-Planck Inst. for Biological Cybernetics
Detry, Renaud	Univ. of Liege
Piater, Justus	Univ. of Liege
Peters, Jan	Max-Planck Inst. for Bio. Cybernetics

11:50-12:10	TuIIT4.4

Experience-Based Learning Mechanism for Neural Controller Adaptation: Application to Walking Biped Robots, pp. 2616-2621.

Nassour, John	Versailles St Quentin Univ.
Henaff, Patrick	Univ. of Versailles St Quentin
Ben Ouezdou, Fathi	Univ. of Versailles-Saint-Quentin
Cheng, Gordon	Tech. Univ. Munich

12:10-12:30	TuIIT4.5

Hardware Design of Autonomous Snake-Like Robot for Reinforcement Learning Based on Environment -Discussion of Versatility on Different Tasks, pp. 2622-2627. Attachment

Ito, Kazuyuki	Hosei Univ.
Takayama, Akihiro	Hosei Univ.
Kobayashi, Toshiharu	Hosei Univ.

TuIIT5	Grand G
Sensing and Control in Medical Robotics (Regular Sessions)	

Chair: Renaud, Pierre	LSIIT, Strasbourg Univ.
Co-Chair: Muńoz, Victor	Univ. of Malaga

10:50-11:10	TuIIT5.1

Illumination Position Estimation for 3D Soft-Tissue Reconstruction in Robotic Minimally Invasive Surgery, pp. 2628-2633.

Stoyanov, Danail	Imperial Coll. London
Elson, Daniel	Imperial Coll. London
Yang, Guang-Zhong	Imperial Coll. London

11:10-11:30	TuIIT5.2

Compensation for 3D Physiological Motion in Robotic-Assisted Surgery Using a Predictive Force Controller. Experimental Results, pp. 2634-2639. Attachment

Dominici, Michel	Univ. Montpellier II
Poignet, Philippe	LIRMM UMR 5506 CNRS UM2
Dombre, Etienne	Univ. Montpellier II & CNRS
Cortesao, Rui	Univ. of Coimbra
Tempier, Olivier	Univ. Montpellier 2 (LIRMM)

11:30-11:50	TuIIT5.3

Kinematic Analysis for a Novel Design of MRI-Compatible Torque Sensor, pp. 2640-2646.

Renaud, Pierre	LSIIT, Strasbourg Univ.
de Mathelin, Michel	Univ. of Strasbourg

11:50-12:10	TuIIT5.4

A Novel MRI Compatible Air-Cushion Tactile Sensor for Minimally Invasive Surgery, pp. 2647-2652.

Zbyszewski, Dinusha	kings Coll. london
Polygerinos, Panagiotis	King's Coll. London
Seneviratne, Lakmal	Kings Coll. London
Althoefer, Kaspar	Kings Coll. London

12:10-12:30	TuIIT5.5

Three-Layer Control for Active Wrists in Robotized Laparoscopic Surgery, pp. 2653-2658.

Bauzano, Enrique	Univ. of Malaga, Spain
Muńoz, Victor	Univ. of Malaga
Garcia-Morales, Isabel	Univ. of Malaga, Spain
Estebanez, Belen	Univ. de Málaga

TuIIT6   Grand H

Biologically-Inspired Robot Design (Regular Sessions)

| Chair: Jones, Bryan | Mississippi State Univ. |
| Co-Chair: Sitti, Metin | Carnegie Mellon Univ. |

10:50-11:10   TuIIT6.1

Three Dimensional Statics for Continuum Robotics, pp. 2659-2664.

Gray, Ricky	Mississippi State Univ.
Jones, Bryan	Mississippi State Univ.
Turlapati, Krishna	Mississippi State Univ.

11:10-11:30   TuIIT6.2

A Brainstem-Like Modulation Approach for Gait Transition in a Quadruped Robot, pp. 2665-2670. Attachment

Matos, Vítor	Univ. do Minho
Santos, Cristina	Univ. of Minho
Pinto, Carla	Superior Inst. of Engineering of Porto and Center of Mathema

11:30-11:50   TuIIT6.3

Control of a Quadruped Robot with Enhanced Adaptability Over Unstructured Terrain, pp. 2671-2676. Attachment

Vo, Gia Loc	Sungkyunkwan Univ.
Roh, Se-gon	Sungkyunkwan Univ.
Koo, Ig Mo	Sung Kyun Kwan Univ.
Tran, Duc Trong	SungKyunKwan Univ.
Kim, Ho Moon	SKKU IRMS Lab.
Moon, Hyungpil	SungKyunKwan Univ.
Choi, Hyouk Ryeol	Sungkyunkwan Univ.
Park, Sangdeok	Korea Inst. of Industrial Tech.

11:50-12:10   TuIIT6.4

Development of Emotional Tremor-Based Vision System, pp. 2677-2682.

Yonekura, Shogo	the Univ. of Tokyo
Kuniyoshi, Yasuo	The Univ. of Tokyo
Kawaguchi, Yoichiro	the Univ. of Tokyo

12:10-12:30   TuIIT6.5

DASH: A Dynamic 16g Hexapedal Robot, pp. 2683-2689. Attachment

Birkmeyer, Paul	Univ. of California, Berkeley
Peterson, Kevin	Univ. of California, Berkeley
Fearing, Ronald	Univ. of California at Berkeley

TuIIT7   Mills 1

Pose Estimation (Regular Sessions)

| Chair: Roumeliotis, Stergios | Univ. of Minnesota |
| Co-Chair: Burschka, Darius | Tech. Univ. München |

10:50-11:10   TuIIT7.1

Accurate Shape-Based 6-DoF Pose Estimation of Single-Colored Objects, pp. 2690-2695. Attachment

Azad, Pedram	Univ. of Karlsruhe
Asfour, Tamim	Univ. of Karlsruhe
Dillmann, Rüdiger	Univ. of Karlsruhe

11:10-11:30   TuIIT7.2

Efficient Camera-Based Pose Estimation for Real-Time Applications, pp. 2696-2703.

Mair, Elmar	Tech. Univ. München (TUM)
Strobl, Klaus H.	German Aerospace Center (DLR)
Suppa, Michael	German Aerospace Center (DLR)
Burschka, Darius	Tech. Univ. München

11:30-11:50   TuIIT7.3

Fast Pose Estimation for Visual Navigation Using Homographies, pp. 2704-2709. Attachment

| Montijano, Eduardo | Univ. de Zaragoza |
| Sagues, Carlos | Univ. de Zaragoza |

11:50-12:10   TuIIT7.4

Interoperable RT Component for Object Detection and 3D Pose Estimation for Service Robots, pp. 2710-2715.

Choi, Jaeil	Div. of Systems Science and Applied Informatics, OsakaUnive
Takahashi, Hideyasu	Osaka Univ.
Mae, Yasushi	Osaka Univ.
Ohara, Kenichi	Osaka Univ.
Takubo, Tomohito	Osaka Univ.
Arai, Tatsuo	Osaka Univ.

12:10-12:30   TuIIT7.5

A 3D Pose Estimator for the Visually Impaired, pp. 2716-2723.

Hesch, Joel	Univ. of Minnesota
Mirzaei, Faraz	Univ. of Minnesota
Mariottini, Gian Luca	Dept. of Computer Science and Engineering
Roumeliotis, Stergios	Univ. of Minnesota

TuIIT8	Mills 2
Robot Audition IV (Invited Sessions)	

| Chair: Nakadai, Kazuhiro | Honda Res. Inst. Japan Co., Ltd. |
| Co-Chair: Okuno, Hiroshi G. | Kyoto Univ. |

10:50-11:10	TuIIT8.1

Daily Sound Recognition Using Pitch-Cluster-Maps for Mobile Robot Audition (I), pp. 2724-2729.

Sasaki, Yoko	National Inst. of Advanced Industrial Science and Tech.
Kaneyoshi, Masahito	AIST
Kagami, Satoshi	National Inst. of AIST
Mizoguchi, Hiroshi	Tokyo Univ. of Science
Enomoto, Tadashi	Kansai Electric Power Co., Inc.

11:10-11:30	TuIIT8.2

Missing-Feature-Theory-Based Robust Simultaneous Speech Recognition System with Non-Clean Speech Acoustic Model (I), pp. 2730-2735.

Takahashi, Toru	Kyoto Univ.
Nakadai, Kazuhiro	Honda Res. Inst. Japan Co., Ltd.
Komatani, Kazunori	Kyoto Univ.
Ogata, Tetsuya	Kyoto Univ.
Okuno, Hiroshi G.	Kyoto Univ.

11:30-11:50	TuIIT8.3

Robot Auditory System Using Head-Mounted Square Microphone Array (I), pp. 2736-2741.

Hosoya, Kosuke	Univ.
Ogawa, Tetsuji	Waseda Univ.
Kobayashi, Tetsunori	Waseda Univ.

11:50-12:10	TuIIT8.4

Extracting Space Dimension Information from the Auditory Modality Sensori-Motor Flow Using a Bio-Inspired Model of the Cochlea (I), pp. 2742-2747.

| Couverture, Charlie | Univ. Pierre et Marie Curie |
| Gas, Bruno | Univ. Pierre et Marie Curie |

12:10-12:30	TuIIT8.5

Multimodal Word Learning from Infant Directed Speech (I), pp. 2748-2754.

Hörnstein, Jonas	Inst. Superior Tecnico
Santos-Victor, José	Inst. Superior Técnico - Inst. for Systems and Robotics
Lacerda, Francisco	Stockholm Univ.
Gustavsson, Lisa	Stockholm Univ.

TuIIT9	Mills 3
Millirobots (Regular Sessions)	

| Chair: Hoover, Aaron | Univ. of California, Berkeley |
| Co-Chair: Rajkowski, Jessica | Univ. of Maryland, Coll. Park |

10:50-11:10	TuIIT9.1

Asymmetric Flapping for a Robotic Fly Using a Hybrid Power-Control Actuator, pp. 2755-2762.

Finio, Benjamin	Harvard Univ.
Oland, Christopher Andrew	Harvard Univ.
Eum, Brandon	Harvard Univ.
Wood, Robert	Harvard Univ.

11:10-11:30	TuIIT9.2

Stress-Driven MEMS Assembly + Electrostatic Forces = 1mm Diameter Robot, pp. 2763-2769. Attachment

Karagozler, Mustafa Emre	Carnegie Mellon Univ.
Goldstein, Seth Copen	Carnegie Mellon Univ.
Reid, James Robert	Air Force Res. Lab.

11:30-11:50	TuIIT9.3

Analysis of Off-Axis Performance of Compliant Mechanisms with Applications to Mobile Millirobot Design, pp. 2770-2776.

| Hoover, Aaron | Univ. of California, Berkeley |
| Fearing, Ronald | Univ. of California at Berkeley |

11:50-12:10	TuIIT9.4

A Multi-Material Milli-Robot Prototyping Process, pp. 2777-2782. Attachment

Rajkowski, Jessica	Univ. of Maryland, Coll. Park
Gerratt, Aaron P.	Univ. of Maryland, Coll. Park
Schaler, Ethan W.	Univ. of Maryland, Coll. Park
Bergbreiter, Sarah	Univ. of Maryland, Coll. Park

12:10-12:30	TuIIT9.5

Perceptually Docked Control Environment for Multiple Microbots: Application to the Gastric Submucosal Tumor Resection, pp. 2783-2788.

Kwok, Ka Wai	Imperial Coll. London
Sun, Loi Wah	The Chinese Univ. of Hong Kong
Vitiello, Valentina	Imperial Coll. London
James, David R C	Imperial Coll. London
Mylonas, George	Imperial Coll. London
Yang, Guang-Zhong	Imperial Coll. London
Darzi, Ara	Imperial Coll. London

TuIIT10	Mills 4
Search and Rescue Robots (Regular Sessions)	

Chair: Matsuno, Fumitoshi	The Univ. of Electro-Communications
Co-Chair: An, Jinung	DGIST

10:50-11:10	TuIIT10.1

Portable Fire Evacuation Guide Robot System, pp. 2789-2794.

Kim, Young-Duk	DGIST
Kim, Yoon-Gu	DGIST(Daegu Gyeongbuk Inst. of Science & Tech.
Lee, Seung Hyun	Daegu Gyeongbuk Inst. of Science and Tech.
An, Jinung	DGIST
Kang, Jeong Ho	Company

11:10-11:30	TuIIT10.2

HELIOS System: A Team of Tracked Robots for Special Urban Search and Rescue Operations, pp. 2795-2800. Attachment

Guarnieri, Michele	Tokyo Inst. of Tech.
Kurazume, Ryo	Kyushu Univ.
Masuda, Hiroshi	Kyushu Univ.
Inoh, Takao	E-N studio
Takita, Kensuke	HiBot Corp.
Hodoshima, Ryuichi	Tokyo Inst. of Tech.
Debenest, Paulo	Tokyo Inst. of Tech.
Fukushima, Edwardo F.	Tokyo Inst. of Tech.
Hirose, Shigeo	Tokyo Inst. of Tech.

11:30-11:50	TuIIT10.3

Throwable Tetrahedral Robot with Transformation Capability, pp. 2801-2808. Attachment

Tadakuma, Kenjiro	Massachusetts Inst. of Tech.
Tadakuma, Riichiro	Harvard Univ.
Nagatani, Keiji	Tohoku Univ.
Yoshida, Kazuya	Tohoku Univ.
Ming, Aiguo	The Univ. of Electro-Communications
Shimojo, Makoto	Univ. of Electro-COmmunications
Iagnemma, Karl	MIT

11:50-12:10	TuIIT10.4

The Autonomous Generation System of a Behavioral Trace Map, pp. 2809-2814.

Mano, Hayato	The Univ. of Electro-Communications
Miyazawa, Katsunori	The Univ. of Electro-Communications
Chatterjee, Ranajit	Univ. of Electro-Communications
Matsuno, Fumitoshi	The Univ. of Electro-Communications

12:10-12:30	TuIIT10.5

Semi-Autonomous Operation of Tracked Vehicles on Rough Terrain Using Autonomous Control of Active Flippers, pp. 2815-2820. Attachment

Okada, Yoshito	Tohoku Univ.
Nagatani, Keiji	Tohoku Univ.
Yoshida, Kazuya	Tohoku Univ.

TuIIT11	Mills 5
Networked Robots I (Regular Sessions)	

Chair: Mosteo, Alejandro R.	Univ. de Zaragoza
Co-Chair: Parker, Lynne	Univ. of Tennessee

10:50-11:10	TuIIT11.1

Bilateral Teleoperation of a Formation of Nonholonomic Mobile Robots under Constant Time Delay, pp. 2821-2826.

Martinez-Palafox, Oscar	Texas A&M Univ.
Spong, Mark	Univ. of Texas at Dallas

11:10-11:30	TuIIT11.2

ISRobotNet: A Testbed for Sensor and Robot Network Systems, pp. 2827-2833.

Barbosa, Marco	Inst. Superior Técnico - Inst. for Systems and Robotics
Bernardino, Alexandre	Inst. Superior Técnico - Inst. for Systems and Robotics
Figueira, Dario	Inst. Superior Técnico - Inst. for Systems and Robotics
Gaspar, Jose	Inst. Superior Técnico - Inst. for Systems and Robotics
Goncalves, Nelson	Inst. Superior Técnico - Inst. for Systems and Robotics
Lima, Pedro	Inst. Superior Técnico - Inst. for Systems and Robotics
Moreno, Plinio	Inst. Superior Técnico - Inst. for Systems and Robotics
Pahliani, Abdolkarim	Inst. Superior Técnico - Inst. for Systems and Robotics
Santos-Victor, José	Inst. Superior Técnico - Inst. for Systems and Robotics
Spaan, Matthijs	Inst. Superior Técnico - Inst. for Systems and Robotics
Sequeira, Joao	Inst. Superior Técnico - Inst. for Systems and Robotics

11:30-11:50	TuIIT11.3

Experimental Characterization of Radio Signal Propagation in Indoor Environments with Application to Estimation and Control, pp. 2834-2839.

Fink, Jonathan	Univ. of Pennsylvania

Michael, Nathan	Univ. of Pennsylvania
Kushleyev, Aleksandr	Univ. of Pennsylvania
Kumar, Vijay	Univ. of Pennsylvania

11:50-12:10   TuIIT11.4

Concurrent Tree Traversals for Improved Mission Performance under Limited Communication Range, pp. 2840-2845.

Mosteo, Alejandro	Univ. de Zaragoza
Montano, Luis	Univ. de Zaragoza

12:10-12:30   TuIIT11.5

Field Trial of Networked Social Robots in a Shopping Mall, pp. 2846-2853. Attachment

Shiomi, Masahiro	ATR
Kanda, Takayuki	ATR
Glas, Dylan F.	ATR
Satake, Satoru	ATR
Ishiguro, Hiroshi	Osaka Univ.
Hagita, Norihiro	ATR

TuIIT12	Mills 6
Aerial Robotics I (Regular Sessions)	
Chair: Leven, Severin	Ec. Pol. Federale de Lausanne
Co-Chair: Floreano, Dario	Ec. Pol. Federal, Lausanne

10:50-11:10   TuIIT12.1

Efficient Resonant Drive of Flapping-Wing Robots, pp. 2854-2860.

Baek, Stanley	UC Berkeley
Ma, Kevin	Univ. of California, Berkeley
Fearing, Ronald	Univ. of California at Berkeley

11:10-11:30   TuIIT12.2

Improvement of Simulation Model and Development of Control Mechanism of Force Direction for a Flying Robot with Cyclogyro Wing, pp. 2861-2866. Attachment

Higashi, Yoshiyuki	Univ. of Electro-Communications
Tanaka, Kazuo	Univ. of Electro-Communications
Ohtake, Hiroshi	Univ. of Electro-Communications
Wang, Hua O.	Boston Univ.

11:30-11:50   TuIIT12.3

Sliding Mode Observer to Estimate Both the Attitude and the Gyro-Bias by Using Low-Cost Sensors, pp. 2867-2872.

El Hadri, AbdelHafid	Versailles Univ.
Benallegue, Abdelaziz	Univ. of Versailles St Quentin en Yvelines

11:50-12:10   TuIIT12.4

A Minimalist Control Strategy for Small UAVs, pp. 2873-2878.

Leven, Severin	Ec. Pol. Federale de Lausanne
Zufferey, Jean-Christophe	EPFL
Floreano, Dario	Ec. Pol. Federal, Lausanne

12:10-12:30   TuIIT12.5

A Pan-Tilt Camera Fuzzy Vision Controller on an Unmanned Aerial Vehicle, pp. 2879-2884.

Olivares-Mendez, Miguel A.	Univ. Pol. de Madrid
Campoy, Pascual	Computer Vision Group. Univ. Pol. de Madrid
Martínez, Carol	UPM
Mondragón, Iván Fernando	Computer Vision Group. Univ. Pol. de Madrid

TuIIT13	Mills 7
Smart Actuators (Regular Sessions)	
Chair: Tan, Xiaobo	Michigan State Univ.
Co-Chair: Niemeyer, Gunter	Willow Garage and Stanford Univ.

10:50-11:10   TuIIT13.1

Variable Impedance Magnetorheological Clutch Actuator and Telerobotic Implementation, pp. 2885-2891.

Walker, Daniel S.	Stanford
Thoma, Dan J.	Los Alamos National Lab.
Niemeyer, Gunter	Willow Garage and Stanford Univ.

11:10-11:30   TuIIT13.2

Fiber-Reinforced Conjugated Polymer Torsional Actuator and Its Nonlinear Elasticity Modeling, pp. 2892-2897.

Fang, Yang	Michigan State Univ.
Pence, Thomas	Michigan State Univ.
Tan, Xiaobo	Michigan State Univ.

11:30-11:50   TuIIT13.3

Characteristics Evaluation of PVC Gel Actuators, pp. 2898-2903.

Ogawa, Naoki	Shinshu Univ.
Hashimoto, Minoru	Shinshu Univ.
Takasaki, Midori	Shinshu Univ.
Hirai, Toshihiro	Shinshu Univ.

11:50-12:10 TuIIT13.4

On the Feasibility and Suitability of MR and ER Based Actuators in Human Friendly Manipulators, pp. 2904-2909.

Shafer, Alex — The Univ. of Western Ontario
Kermani, Mehrdad R. — Univ. of Western Ontario

12:10-12:30 TuIIT13.5

Experimental Evaluation of Optimal Conically-Shaped Dielectric Elastomer Linear Actuators, pp. 2910-2915.

Berselli, Giovanni — Univ. di Bologna
Vertechy, Rocco — Scuola Superiore Sant' Anna
Vassura, Gabriele — Univ. of Bologna
Parenti Castelli, Vincenzo — Univ. of Bologna

TuIIT14 Mills 8
Control Methods for Biped Walking Robots (Regular Sessions)

Chair: Braun, David — Vanderbilt Univ.
Co-Chair: Sugihara, Tomomichi — Kyushu Univ.

10:50-11:10 TuIIT14.1

A Controller for Dynamic Walking in Bipedal Robots, pp. 2916-2921. Attachment

Braun, David J. — Vanderbilt Univ.
Goldfarb, Michael — Vanderbilt Univ.

11:10-11:30 TuIIT14.2

Terrain-Adaptive Control with Small Landing Impact Force for Biped Vehicle, pp. 2922-2927. Attachment

Hashimoto, Kenji — Waseda Univ.
Hayashi, Akihiro — Waseda Univ.
Sawato, Terumasa — Waseda Univ.
Yoshimura, Yuki — Waseda Univ.
Asano, Teppei — Waseda Univ.
Hattori, Kentaro — Waseda Univ.
Sugahara, Yusuke — Tohoku Univ.
Lim, Hun-ok — Kanagawa Univ.
Takanishi, Atsuo — Waseda Univ.

11:30-11:50 TuIIT14.3

Generation of Energy Saving Motion for Biped Walking Robot through Resonance-Based Control Method, pp. 2928-2933.

Uemura, Mitsunori — Ritsumeikan Univ.
Kousuke, Kimura — Ritsumeikan Univ.
Kawamura, Sadao — Ritsumeikan Univ.

11:50-12:10 TuIIT14.4

Efficient Parametric Excitation Walking with Delayed Feedback Control, pp. 2934-2939.

Harata, Yuji — Nagoya Univ.
Asano, Fumihiko — Japan Advanced Inst. of Science and Tech.
Taji, Kouichi — Nagoya Unviersity
Uno, Yoji — Nagoya Univ.

12:10-12:30 TuIIT14.5

Dynamics Morphing from Regulator to Oscillator on Bipedal Control, pp. 2940-2945.

Sugihara, Tomomichi — Kyushu Univ.

TuIIT15 Sterling 6
Path Following and Control (Regular Sessions)

Chair: Ye, Cang — Univ. of Arkansas at Little Rock
Co-Chair: Guo, Yi — Stevens Inst. of Tech.

10:50-11:10 TuIIT15.1

A Lyapunov-Stable, Sensor-Based Model for Real-Time Path-Tracking among Unknown Obstacles, pp. 2946-2951.

Sgorbissa, Antonio — Univ. of Genova
Vargiu, Andrea — Univ. of Genova
Villa, Alessandro — Univ. di Genova
Zaccaria, Renato — Univ. of Genova

11:10-11:30 TuIIT15.2

A Minimalist Feedback Control for Path Tracking in Cartesian Space, pp. 2952-2957.

Sgorbissa, Antonio — Univ. of Genova
Zaccaria, Renato — Univ. of Genova

11:30-11:50 TuIIT15.3

Automated Synthesis of Control Algorithms from First Principles, pp. 2958-2965.

Berg, Henrik — Norwegian Defence Res. Establishment
Olsson, Roland — Řstfold Univ. Coll.
Rusĺs, Per-Olav — Prediktor AS
Jakobsen, Morgan — Kongsberg Norcontrol IT

11:50-12:10 TuIIT15.4

Versatile Reactive Navigation, pp. 2966-2972. Attachment

Tychonievich, Luther A. — Brigham Young Univ.
Tychonievich, Louis P. — Cleveland State Univ.

| Burton, Robert P. | Brigham Young Univ. |

12:10-12:30   TuIIT15.5

Trajectory Control of Wheeled Mobile Robots Based on Virtual Manipulators, pp. 2973-2978.

| Yamazaki, Kimitoshi | The Univ. of Tokyo |
| Inaba, Masayuki | The Univ. of Tokyo |

TuIIT16   Regency D
Visual Tracking II (Regular Sessions)

| Chair: Ye, Weilong | Tsinghua Univ. |
| Co-Chair: Trahanias, Panos | Foundation for Res. and Tech. – Hellas (FORTH) |

10:50-11:10   TuIIT16.1

Vehicle Tracking Based on Co-Learning Particle Filter, pp. 2979-2984.

| Ye, Weilong | Tsinghua Univ. |

11:10-11:30   TuIIT16.2

Collaboration of Spatial and Feature Attention for Visual Tracking, pp. 2985-2992.

Liu, Hong	Peking Univ.
Wan, Weiwei	Peking Univ.
Shi, Ying	Peking Univ.

11:30-11:50   TuIIT16.3

The Application of Intrinsic Variable Preserving Manifold Learning Method to Tracking Multiple People with Occlusion Reasoning, pp. 2993-2998. Attachment

Zheng, Suiwu	Inst. of Automation Chinese Acad. of Sciences
Qiao, Hong	Chinese Acad. of Sciences
Zhang, Bo	Acad. of Mathematics ad Systems Science, Chinese Acad. of Sc
Zhang, Peng	Chinese Acad. of Sciences

11:50-12:10   TuIIT16.4

Visual Tracking of Planes with an Uncalibrated Central Catadioptric Camera, pp. 2999-3004.

Salazar-Garibay, Adan	INRIA Sophia-Antipolis
Malis, Ezio	INRIA
Mei, Christopher	Univ. of Oxford

12:10-12:30   TuIIT16.5

Visual Tracking of Independently Moving Body and Arms, pp. 3005-3010.

Sigalas, Markos	Foundation for Res. and Tech. - Hellas
Baltzakis, Haris	Foundation for Res. and Tech. - Hellas
Trahanias, Panos	Foundation for Res. and Tech. – Hellas (FORTH)

TuIIIT1   Grand A
Humanoid Robot Biped Walking and Balance Control (Regular Sessions)

| Chair: Buschmann, Thomas | TU Munich |
| Co-Chair: Khatib, Oussama | Stanford Univ. |

14:00-14:20   TuIIIT1.1

Compliant Humanoid Robot Control by the Torque Transformer, pp. 3011-3018.

| Yoshikawa, Taizo | Honda Res. Inst. USA, Inc. |
| Khatib, Oussama | Stanford Univ. |

14:20-14:40   TuIIIT1.2

Biped Walking Control Based on Hybrid Position/Force Control, pp. 3019-3024.

Buschmann, Thomas	TU Munich
Lohmeier, Sebastian	Tech. Univ. Munich
Ulbrich, Heinz	Tech. Univ. Muenchen

14:40-15:00   TuIIIT1.3

Micro Rubber Structure Realizing Multi-Legged Passive Walking -Integration and Miniaturization by Micro Rubber Molding Process, pp. 3025-3030.

| Saito, Fumitaka | Okayama Univ. |
| Suzumori, Koichi | Okayama Univ. |

15:00-15:20   TuIIIT1.4

Standing Balance Control Using a Trajectory Library, pp. 3031-3036.

| Liu, Chenggang | Shanghai Jiaotong Univ. |
| Atkeson, Christopher | CMU |

15:20-15:40   TuIIIT1.5

Planning Approach and Local Reactivity for 3D Operational Space Control of 3D Bipedal Robots with Flexible Feet, pp. 3037-3042.

Bruneau, Olivier	UVSQ / LISV
Gravez, Fabrice	CEA LIST
Ben Ouezdou, Fathi	Univ. of Versailles-Saint-Quentin

TuIIIT2   Grand B
Human Robot Interaction IV (Regular Sessions)

| Chair: Hein, Björn | Univ. Karlsruhe (TH) |
| Co-Chair: Carff, John | IHMC |

14:00-14:20	TuIIIT2.1

Human-Robot Team Navigation in Visually Complex Environments, pp. 3043-3050.

Carff, John	IHMC
Johnson, Matthew	Inst. for Human & Machine Cognition
El-Sheikh, Eman	Univ. of West Florida
Pratt, Jerry	Inst. for Human and Machine Cognition

14:20-14:40	TuIIIT2.2

A Simple Control Design for Human-Robot Coordination Based on the Knowledge of Dynamical Role Division, pp. 3051-3056.

Ueha, Ryohei	Graduate School of Engineering Science, Osaka Univ.
Pham, Hang	Graduate School of Engineering Science, Osaka Univ.
Hirai, Hiroaki	Graduate School of Engineering Science, Osaka Univ.
Miyazaki, Fumio	Graduate School of Engineering Science, Osaka Univ.

14:40-15:00	TuIIIT2.3

Understanding of Positioning Skill Based on Feedforward / Feedback Switched Dynamical Model, pp. 3057-3057.

Okuda, Hiroyuki	Nagoya Univ.
Takeuchi, Hidenori	Nagoya Univ.
Inagaki, Shinkichi	Nagoya Univ.
Suzuki, Tatsuya	Nagoya Univ.
Hayakawa, Soichiro	Toyota Tech. Insititute

15:00-15:20	TuIIIT2.4

Constraint Task-Based Control in Industrial Settings, pp. 3058-3063.

Lenz, Claus	Tech. Univ. München
Rickert, Markus	Tech. Univ. München
Panin, Giorgio	Tech. Univ. Muenchen
Knoll, Alois	TU Munich

15:20-15:40	TuIIIT2.5

Intuitive and Model-Based On-Line Programming of Industrial Robots: New Input Devices, pp. 3064-3069. Attachment

Hein, Björn	Univ. Karlsruhe (TH)
Woern, Heinz	Univ. Karlsruhe

TuIIIT3	Grand C

Mapping III (Regular Sessions)

Chair: Andrade-Cetto, Juan	CSIC-UPC
Co-Chair: Sandoval, Francisco	Univ. Málaga

14:00-14:20	TuIIIT3.1

Compressive Mobile Sensing in Robotic Mapping, pp. 3070-3075. Attachment

Huang, Shuo	Michigan Tech. Univ.
Tan, Jindong	Michigan Tech. Univ.

14:20-14:40	TuIIIT3.2

3D Mapping for Urban Service Robots, pp. 3076-3081. Attachment

Valencia, Rafael	CSIC-UPC
Teniente Avilés, Ernesto Homar	CSIC-UPC
Trulls, Eduard	CSIC-UPC
Andrade-Cetto, Juan	CSIC-UPC

14:40-15:00	TuIIIT3.3

3D Environment Reconstruction Using Modified Color ICP Algorithm by Fusion of a Camera and a 3D Laser Range Finder, pp. 3082-3088. Attachment

Joung, Ji Hoon	Electronics and Telecommunications Res. Inst.
An, Kwang Ho	KAIST
Kang, Jung Won	Korea Advanced Inst. of Science and Tech.
Chung, Myung Jin	KAIST
Yu, Wonpil	ETRI

15:00-15:20	TuIIIT3.4

Estimation of Camera Motion with Feature Flow Model for 3D Environment Modeling by Using Omni-Directional Camera, pp. 3089-3094. Attachment

Kawanishi, Ryosuke	Shizuoka Univ.
Yamashita, Atsushi	Shizuoka Univ.
Kaneko, Toru	Shizuoka Univ.

15:20-15:40	TuIIIT3.5

Combined Constraint Matching Algorithm for Stereo Visual Odometry Based on Local Interest Points, pp. 3095-3100.

Núńez Trujillo, Pedro	Univ. de Extremadura
Vazquez Martin, Ricardo	Univ. of Malaga
Bandera, Antonio	Univ. de Málaga
Sandoval, Francisco	Univ. Málaga

TuIIIT4	Grand F

Learning II (Regular Sessions)

Chair: Kawamura, Sadao	Ritsumeikan Univ.
Co-Chair: Beetz, Michael	Tech. Univ. München

14:00-14:20	TuIIIT4.1

Understanding Robot Motor Capability Using Information-Theory-Based Approach, pp. 3101-3106.

Lin, Hsien-I	Purdue Univ.
Lee, C. S. George	Purdue Univ.

14:20-14:40	TuIIIT4.2

Planning-Space Shift Learning: Variable-Space Motion Planning Toward Flexible Extension of Body Schema, pp. 3107-3114.

Kobayashi, Yuichi	Tokyo Univ. of Agriculture and Tech.
Hosoe, Shigeyuki	RIKEN

14:40-15:00	TuIIIT4.3

Action-Related Place-Based Mobile Manipulation, pp. 3115-3120. Attachment

Stulp, Freek	Tech. Univ. München
Fedrizzi, Andreas	TU Muenchen
Beetz, Michael	Tech. Univ. München

15:00-15:20	TuIIIT4.4

Sparse Online Model Learning for Robot Control with Support Vector Regression, pp. 3121-3126.

Nguyen-Tuong, Duy	Max Planck Inst.
Schoelkopf, Bernhard	Max Planck Inst. for Biological Cybernetics
Peters, Jan	Max-Planck Inst. for Bio. Cybernetics

15:20-15:40	TuIIIT4.5

Basis-Motion Torque Composition Approach: Generation of Feedforward Inputs for Control of Multi-Joint Robots, pp. 3127-3132.

Sekimoto, Masahiro	Ritsumeikan Univ.
Kawamura, Sadao	Ritsumeikan Univ.
Ishitsubo, Tomoya	Ritsumeikan Univ.
Akizuki, Shinsuke	Ritsumeikan Univ.
Mizuno, Masayuki	Ritsumeikan Univ.

TuIIIT5
Sensing, Cognition, and Learning (Regular Sessions)

Chair: Aloimonos, Yiannis	Univ. of Maryland
Co-Chair: Caputo, Barbara	IDIAP Res. Inst.

14:00-14:20	TuIIIT5.1

Active Segmentation for Robotics, pp. 3133-3139. Attachment

Mishra, Ajay	Univ. of Maryland, National Univ. of Singapore
Aloimonos, Yiannis	Univ. of Maryland
Fermüller, Cornelia	Univ. of Maryland

14:20-14:40	TuIIIT5.2

A Computer Vision Integration Model for a Multi-Modal Cognitive System, pp. 3140-3147.

Vrecko, Alen	Univ. of Ljubljana, Faculty of Computer and Information Sci
Skocaj, Danijel	Univ. of Ljubljana
Hawes, Nick	Univ. of Birmingham
Leonardis, Ales	Univ. of Ljubljana

14:40-15:00	TuIIIT5.3

A Cognitive System for Autonomous Robotic Welding, pp. 3148-3153.

Schroth, Georg	Tech. Univ. München
Stork genannt Wersborg, Ingo	Tech. Univ. München
Diepold, Klaus	Tech. Univ. München

15:00-15:20	TuIIIT5.4

You Live, You Learn, You Forget: Continuous Learning of Visual Places with a Forgetting Mechanism, pp. 3154-3161.

Ullah, Muhammad Muneeb	INRIA Rennes, IRISA, Rennes, France
Orabona, Francesco	Idiap Res. Inst.
Caputo, Barbara	IDIAP Res. Inst.

15:20-15:40	TuIIIT5.5

A Neuro-Dynamic Architecture for One Shot Learning of Objects That Uses Both Bottom-Up Recognition and Top-Down Prediction, pp. 3162-3169.

Faubel, Christian	Ruhr-Univ. Bochum
Schöner, Gregor	Ruhr Univ. Bochum

TuIIIT6
Grand H
Haptics III (Regular Sessions)

Chair: Fujie, Masakatsu G.	Waseda Univ.
Co-Chair: Ito, Tatsuya	Saitama Univ.

14:00-14:20	TuIIIT6.1

Haptic Display of Realistic Tool Contact Via Dynamically Compensated Control of a Dedicated Actuator, pp. 3170-3177.

McMahan, William	Univ. of Pennsylvania
Kuchenbecker, Katherine J.	Univ. of Pennsylvania

14:20-14:40	TuIIIT6.2

Command Recognition by Haptic Interface on Human Support Robot, pp. 3178-3183.

Tsuji, Toshiaki	Saitama Univ.
Ito, Tatsuya	Saitama Univ.

14:40-15:00	TuIIIT6.3

Virtual Active Touch II: Vibrotactile Representation of Friction and a New Approach to Surface Shape Display, pp. 3184-3189.

Tsuchiya, Sho	Tohoku Univ.
Konyo, Masashi	Tohoku Univ.
Yamada, Hiroshi	Tohoku Univ.
Yamauchi, Takahiro	Tohoku Univ.
Okamoto, Shogo	Tohoku Univ.
Tadokoro, Satoshi	Tohoku Univ.

15:00-15:20	TuIIIT6.4

Enhanced Haptic Device Compatible with Fmri Environment, pp. 3190-3195.

Hribar, Ales	Faculty of Electrical Engineering; Univ. of Ljubljana
Munih, Marko	Univ. of Ljubljana

15:20-15:40	TuIIIT6.5

Development of a Cane with a Haptic Interface Using IC Tags for the Visually Impaired, pp. 3196-3201.

Ando, Takeshi	Waseda Univ.
Yamamoto, Masahiro	Waseda Univ.
Seki, Masatoshi	Waseda Univ.
Fujie, Masakatsu G.	Waseda Univ.

TuIIIT7	Mills 1
Walking Robots (Regular Sessions)	
Chair: Chemori, Ahmed	LIRMM
Co-Chair: Taji, Kouichi	Nagoya Unviersity

14:00-14:20	TuIIIT7.1

Optimal Trajectory Design for Parametric Excitation Walking, pp. 3202-3207.

Banno, Yoshihisa	Nagoya Univ.
Harata, Yuji	Nagoya Univ.
Taji, Kouichi	Nagoya Unviersity
Uno, Yoji	Nagoya Univ.

14:20-14:40	TuIIIT7.2

Understanding the Common Principle Underlying Passive Dynamic Walking and Running, pp. 3208-3213. Attachment

Owaki, Dai	Tohoku Univ.
Osuka, Koichi	Kobe Univ.
Ishiguro, Akio	Tohoku Univ.

14:40-15:00	TuIIIT7.3

Effects of Swing-Leg Retraction and Mass Distribution on Energy-Loss Coefficient in Limit Cycle Walking, pp. 3214-3219.

Asano, Fumihiko	Japan Advanced Inst. of Science and Tech.

15:00-15:20	TuIIIT7.4

The Instantaneous Leg Extension Model of Virtual Slope Walking, pp. 3220-3225.

Zhao, Mingguo	Tsinghua Univ.
Dong, Hao	Tsinghua Univ.
Zhang, Naiyao	Tsinghua Univ. Department of Automation

15:20-15:40	TuIIIT7.5

A Discrete-Time Control Strategy for Dynamic Walking of a Planar Under-Actuated Biped Robot, pp. 3226-3231.

Chemori, Ahmed	LIRMM

TuIIIT8	Mills 2
Force Control (Regular Sessions)	
Chair: Johansson, Rolf	LTH, Lund Univ.
Co-Chair: Ben Ouezdou, Fathi	Univ. of Versailles-Saint-Quentin

14:00-14:20	TuIIIT8.1

Modeling & Characterizing Stochastic Actuator Arrays, pp. 3232-3237.

MacNair, David	Georgia Inst. of Tech.
Ueda, Jun	Georgia Inst. of Tech.

14:20-14:40	TuIIIT8.2

Stability of Haptic Obstacle Avoidance and Force Interaction, pp. 3238-3243.

Rolf, Johansson	Lund Univ.
Annerstedt, Magnus	Lund Univ. Hospital
Robertsson, Anders	LTH, Lund Univ.

14:40-15:00	TuIIIT8.3

Base Force/Torque Sensing for Position Based Cartesian Impedance Control, pp. 3244-3250.

Ott, Christian	Univ. of Tokyo
Nakamura, Yoshihiko	Univ. of Tokyo

15:00-15:20	TuIIIT8.4

Proposal and Development of Arrayed Sole Sensor for Legged Robot and Contact Force Detection Using Neural Networks, pp. 3251-3256.

Aoyagi, Seiji	Kansai Univ.
Matsuda, Takashi	Kansai Univ.
Ikejiri, Yuuki	Kansai Univ.
Suzuki, Masato	Kansai Univ.

Inoue, Kenji	Yamagata Univ.

15:20-15:40   TuIIIT8.5

Concept of a Novel Four-Wheel-Type Mobile Robot for Rough Terrain, RT-Mover, pp. 3257-3264.

Nakajima, Shuro	Chiba Inst. of Tech. Japan

TuIIIT9   Mills 3
Micro-Manipulators (Regular Sessions)

Chair: Sitti, Metin	Carnegie Mellon Univ.
Co-Chair: Liljebäck, PÍl	SINTEF IKT

14:00-14:20   TuIIIT9.1

2D Micro Teleoperation with Force Feedback, pp. 3265-3270.

Bolopion, Aude	Univ. Pierre et Marie-Curie, Paris 6
Cagneau, Barthélemy	Univ. Pierre et Marie Curie, Paris6
Régnier, Stéphane	Univ. Paris 6

14:20-14:40   TuIIIT9.2

Automated Initial Setup Method for Two-Fingered Micro Hand System, pp. 3271-3276.

Hatta, Izumi	Osaka Univ.
Ohara, Kenichi	Osaka Univ.
Arai, Tatsuo	Osaka Univ.
Mae, Yasushi	Osaka Univ.
Takubo, Tomohito	Osaka Univ.

14:40-15:00   TuIIIT9.3

Design of Semi-Decentralized Control Laws for Distributed-Air-Jet Micromanipulators by Reinforcement Learning, pp. 3277-3283.

Matignon, Laetitia	UMR CNRS 6174 - UFC / ENSMM / UTBM
Laurent, Guillaume	ENSMM - Univ. de Franche-Comté
Lefort-Piat, Nadine	Lab. d'Automatique de Besançon

15:00-15:20   TuIIIT9.4

Microassembly of Complex and Solid 3D MEMS by 3D Vision-Based Control, pp. 3284-3289. Attachment

Tamadazte, Brahim	CNRS, UFC/ENSMM/UTBM
Lefort-Piat, Nadine	Lab. d'Automatique de Besançon
Marchand, Eric	Univ. de Rennes 1
Dembélé, Sounkalo	Lab. d'Automatique de Besançon

15:20-15:40   TuIIIT9.5

Development of Micro/Nano Displacement Sensor for Piezoelectric Actuator, pp. 3290-3296.

Yu, Yong	Kagoshima Univ.
Song, Bo	Univ. of Science and Tech. of China
Ge, Yunjian	Chinese Acad. of Sciences

TuIIIT10   Mills 4
Robotics in Hazardous Fields (Regular Sessions)

Chair: Trincavelli, Marco	Örebro Univ.
Co-Chair: Noakes, Mark W	Oak Ridge National Lab.

14:00-14:20   TuIIIT10.1

Self Calibration of Step-By-Step Based Climbing Robots, pp. 3297-3303. Attachment

Tavakoli, Mahmoud	Univ. of Coimbra
Marques, Lino	Univ. of Coimbra
de Almeida, Anibal	Univ. of Coimbra

14:20-14:40   TuIIIT10.2

Large Scale Multi-Fingered End Effector Teleoperation, pp. 3304-3310.

Hamel, William R.	Univ. of Tennessee
Humphreys, Heather	Georgia Inst. of Tech.
Nycz, Andrzej	The Univ. of Tennessee
Park, Joong-kyoo	The Univ. of Tennessee
Noakes, Mark W	Oak Ridge National Lab.

14:40-15:00   TuIIIT10.3

Online Classi_; Cation of Gases for Environmental Exploration, pp. 3311-3316.

Trincavelli, Marco	Örebro Univ.
Coradeschi, Silvia	Örebro Univ.
Loutfi, Amy	Örebro Univ.

15:00-15:20   TuIIIT10.4

Mobile Robots for Offshore Inspection and Manipulation, pp. 3317-3322.

Bengel, Matthias	Fraunhofer IPA
Pfeiffer, Kai	Fraunhofer IPA
Graf, Birgit	Fraunhofer Inst. Manufacturing Engineering and Automation IP
Bubeck, Alexander	Fraunhofer IPA
Verl, Alexander	Fraunhofer-Gesellschaft

15:20-15:40   TuIIIT10.5

Development of a Biped Line-Walking Mechanism for Power Transmission Line Inspection Purpose, pp. 3323-3328.

Wang, Ludan	Lab. of Intelligent Robot Engineering, KunShan Inst.

| Cheng, Sheng | Kunshan Inst. of Intelligent Robot Engineering |
| Zhang, Jianwei | Univ. of Hamburg |

Space Robotics II (Regular Sessions)

| Chair: Schwendner, Jakob | German Res. Center for Artificial Intelligence (DFKI) |
| Co-Chair: Pugh, Stephen Medwyn | Univ. Aberystwyth |

14:00-14:20   TuIIIT11.1

Autonomous Science Target Identification and Acquisition (ASTIA) for Planetary Exploration, pp. 3329-3335.

Barnes, David Preston	Aberystwyth Univ.
Pugh, Stephen Medwyn	Univ. Aberystwyth
Tyler, Laurence Gethyn	Aberystwyth Univ.

14:20-14:40   TuIIIT11.2

A Rough--Terrain, Casting Robot for the ESA Lunar Robotics Challenge, pp. 3336-3342.

Alicino, Simone	Faculty of Engineering - Univ. of Pisa
Catalano, Manuel	Faculty of Engineering - Univ. of Pisa
Bonomo, Fabio	Faculty of Engineering - Univ. of Pisa
Belo, Felipe	Univ. of Pisa
Grioli, Giorgio	Univ. di Pisa
Schiavi, Riccardo	Univ. of Pisa
Fagiolini, Adriano	Univ. of Pisa
Bicchi, Antonio	Univ. of Pisa

14:40-15:00   TuIIIT11.3

Slip Ratio for Lugged Wheel of Planetary Rover in Deformable Soil: Definition and Estimation, pp. 3343-3348.

Ding, Liang	Harbin Inst. of Tech.
Gao, Haibo	Harbin Inst. of Tech.
Deng, Zongquan	Harbin Inst. of Tech.
Yoshida, Kazuya	Tohoku Univ.
Nagatani, Keiji	Tohoku Univ.

15:00-15:20   TuIIIT11.4

Multi-Modal Image Registration for Localization in Titan's Atmosphere, pp. 3349-3354.

| Ansar, Adnan | Jet Propulsion Lab. Caltech |
| Matthies, Larry | Jet Propulsion Lab. |

15:20-15:40   TuIIIT11.5

CESAR: A Lunar Crater Exploration and Sample Return Robot, pp. 3355-3360.

Schwendner, Jakob	German Res. Center for Artificial Intelligence (DFKI)
Grimminger, Felix	German Res. Center for Artificial Intelligence
Bartsch, Sebastian	German Res. Center for Artificial Intelligence
Kaupisch, Thilo Philipp	DFKI
Yüksel, Mehmed	DFKI
Bresser, Andreas	DFKI
Bessekon Akpo, Joel	DFKI
Seydel, Michael K.-G.	DFKI
Dieterle, Alexander	DFKI
Schmidt, Steffen	DFKI
Kirchner, Frank	Univ. of Bremen

Aerial Robotics II (Regular Sessions)

| Chair: DeSouza, Guilherme | Univ. of Missouri-Columbia |
| Co-Chair: Olivares-Mendez, Miguel A. | Univ. Pol. de Madrid |

14:00-14:20   TuIIIT12.1

Trinocular Ground System to Control UAVs, pp. 3361-3367.

Martinez, Carol	UPM
Campoy, Pascual	Computer Vision Group. Univ. Pol. de Madrid
Mondragón, Iván Fernando	Computer Vision Group. Univ. Pol. de Madrid
Olivares-Mendez, Miguel A.	Univ. Pol. de Madrid

14:20-14:40   TuIIIT12.2

Fast and Robust Photomapping with an Unmanned Aerial Vehicle (UAV), pp. 3368-3373.

| Buelow, Heiko | Jacobs Univ. |
| Birk, Andreas | Jacobs Univ. |

14:40-15:00   TuIIIT12.3

GPS-Based Position Control and Waypoint Navigation System for Quadrocopters, pp. 3374-3379.

Puls, Tim	associated Inst. of the Univ. of oldenburg
Kemper, Markus	Univ. of Oldenburg
Küke, Reimund	Company
Hein, Andreas	Univ. of Oldenburg

15:00-15:20   TuIIIT12.4

On the Generation of Feasible Paths for Aerial Robots in Environments with Obstacles, pp. 3380-3385.

| Macharet, Douglas Guimarães | Univ. Federal de Minas Gerais |

| Alves Neto, Armando | Univ. Federal de Minas Gerais |
| Campos, Mario F. Montenegro | Federal Univ. of Minas Gerais |

15:20-15:40 TuIIIT12.5

A Stereo Vision System for UAV Guidance, pp. 3386-3391. Attachment

Moore, Richard James Donald	Univ. of Queensland
Thurrowgood, Saul	Univ. of Queensland
Bland, Daniel Peter	Univ. of Queensland
Soccol, Dean	Univ. of Queensland
Srinivasan, Mandyam	The Univ. of Queensland

TuIIIT13 Mills 7

Impedance and Force Control (Regular Sessions)

| Chair: Wejinya, Uchechukwu C. | Univ. of Arkansas |
| Co-Chair: Aghili, Farhad | Canadian Space Agency |

14:00-14:20 TuIIIT13.1

A Practical Decoupled Stabilizer for Joint-Position Controlled Humanoid Robots, pp. 3392-3397. Attachment

Kaynov, Dmitry	Univ. Carlos III of Madrid
Soueres, Philippe	LAAS-CNRS
Pierro, Paolo	Univ. Carlos III of Madrid
Balaguer, Carlos	Univ. Carlos III de Madrid

14:20-14:40 TuIIIT13.2

Impact Forces in the Simulation of Simultaneous Impacts and Contacts in Multibody Systems with Friction, pp. 3398-3403.

| Flickinger, Daniel Montrallo | Univ. of Texas Arlington |
| Bowling, Alan | The Univ. of Texas at Arlington |

14:40-15:00 TuIIIT13.3

An Experimental Study and Modeling of Loading and Unloading of Nonlinear Viscoelastic Contacts, pp. 3404-3409.

Tsai, Chia-Hung	SUNY@Stony Brook
Kao, Imin	SUNY at Stony Brook
Yoshimoto, Kayo	Osaka Univ.
Higashimori, Mitsuru	Osaka Univ.
Kaneko, Makoto	Osaka Univ.

15:00-15:20 TuIIIT13.4

Impedance Control of Manipulators Carrying a Heavy Payload, pp. 3410-3415.

| Aghili, Farhad | Canadian Space Agency |

15:20-15:40 TuIIIT13.5

A Compact Kick-And-Bounce Mobile Robot Powered by Unidirectional Impulse Force Generators, pp. 3416-3421. Attachment

Tsuda, Takashi	Univ. of Tsukuba
Mochiyama, Hiromi	Univ. of Tsukuba
Fujimoto, Hideo	Nagoya Inst. of Tech.

TuIIIT14 Mills 8

Robot Programming (Regular Sessions)

| Chair: Anderson, Monica | The Univ. of Alabama |
| Co-Chair: Pedrocchi, Nicola | National Council of Res. |

14:00-14:20 TuIIIT14.1

Using Real-Time Awareness to Manage Performance of Java Clients on Mobile Robots, pp. 3422-3428.

McKenzie, Andrew	The Univ. of Alabama
Anderson, Monica	The Univ. of Alabama
Alexander, Quentin	The Univ. of Alabama
Dawson, Shameka	Univ. of Alabama

14:20-14:40 TuIIIT14.2

A Component Based Design Framework for Robot Software Architecture, pp. 3429-3434.

Wei, Hongxing	Beihang Univ.
Duan, Xinming	Beijing Univ. of Aeronautics and Astronautics
Li, Shiyi	Beijing Univ. of Aeronautics and Astronautics
Tong, Guofeng	Northeastern Univ.
Wang, Tianmiao	Beihang Univ.

14:40-15:00 TuIIIT14.3

Safe Obstacle Avoidance for Industrial Robot Working without Fences, pp. 3435-3440.

Pedrocchi, Nicola	National Council of Res.
Malosio, Matteo	National Res. Council
Molinari Tosatti, Lorenzo	National Council of Res.

15:00-15:20 TuIIIT14.4

Synchronization on a Segment without Localization: Algorithm and Applications, pp. 3441-3446.

| Wang, Hua | Stevens Inst. of Tech. |
| Guo, Yi | Stevens Inst. of Tech. |

15:20-15:40 TuIIIT14.5

High-Fidelity Radio Communications Modeling for Multi-Robot Simulation, pp. 3447-3452.

| Shell, Dylan | Univ. of Southern California |

Mataric, Maja	Univ. of Southern California

TuIIIT15 — Sterling 6
Robot Localization and Mapping II (Regular Sessions)

Chair: Zhou, Yu	SUNY at Stony Brook
Co-Chair: Quinlan, Michael	Univ. of Texas at Austin

14:00-14:20 — TuIIIT15.1

Vehicle Localization Integrity Based on Trajectory Monitoring, pp. 3453-3458.

Le Marchand, Olivier	Univ. of Tech. of Compiegne
Bonnifait, Philippe	Univ. of Tech. of Compiegne
Ibanez-Guzman, Javier	Renault
Bétaille, David	Lab. Central des Ponts et Chaussées

14:20-14:40 — TuIIIT15.2

Bayesian Robot Localization with Action-Associated Sparse Appearance-Based Map in a Dynamic Indoor Environment, pp. 3459-3466.

Park, Young-Bin	hanyang Univ.
Suh, Il Hong	Hanyang Univ.
Choi, Byung-Uk	hanyang Univ.

14:40-15:00 — TuIIIT15.3

Bayesian Robot Localization Using Spatial Object Contexts, pp. 3467-3473.

Yi, Chuho	Hanyang Univ.
Suh, Il Hong	Hanyang Univ.
Lim, Gi Hyun	Hanyang Univ.
Choi, Byung-Uk	hanyang Univ.

15:00-15:20 — TuIIIT15.4

An Efficient Least-Squares Trilateration Algorithm for Mobile Robot Localization, pp. 3474-3479.

Zhou, Yu	SUNY at Stony Brook

15:20-15:40 — TuIIIT15.5

Improving Particle Filter Performance Using SSE Instructions, pp. 3480-3485.

Djeu, Peter	Univ. of Texas at Austin
Quinlan, Michael	Univ. of Texas at Austin
Stone, Peter	Univ. of Texas at Austin

TuIIIT16 — Regency D
Visual Odometry (Regular Sessions)

Chair: Civera, Javier	Univ. de Zaragoza
Co-Chair: Kuroda, Yoji	Meiji Univ.

14:00-14:20 — TuIIIT16.1

On the Error Analysis of Vertical Line Pair-Based Monocular Visual Odometry in Urban Area, pp. 3486-3491.

Zhang, Ji	Texas A&M Univ.
Song, Dezhen	Texas A&M Univ.

14:20-14:40 — TuIIIT16.2

Visual Odometry with Effective Feature Sampling_; for Untextured Outdoor Environment, pp. 3492-3497.

Tamura, Yuya	Meiji Univ.
Suzuki, Masataka	Meiji Univ.
Ishii, Akira	Meiji Univ.
Kuroda, Yoji	Meiji Univ.

14:40-15:00 — TuIIIT16.3

1-Point RANSAC for EKF-Based Structure from Motion, pp. 3498-3504.

Civera, Javier	Univ. de Zaragoza
Grasa, Oscar G.	Univ. de Zaragoza
Davison, Andrew J	Imperial Coll. London
Montiel, J.M.M	Univ. de Zaragoza

15:00-15:20 — TuIIIT16.4

Appearance Contrast for Fast, Robust Trail-Following, pp. 3505-3512.

Rasmussen, Christopher	Univ. of Delaware
Lu, Yan	Univ. of Delaware
Kocamaz, Mehmet	Univ. of Delaware

15:20-15:40 — TuIIIT16.5

Visual Odometry for the Autonomous City Explorer, pp. 3513-3518. Attachment

Zhang, Tianguang	Tech. Univ. München
Liu, Xiaodong	Tech. Univ. Muenchen
Kühnlenz, Kolja	Tech. Univ. München
Buss, Martin	Tech. Univ. München

TuIVT1 — Grand A
Humanoid Robot Action (Regular Sessions)

Chair: Kuffner, James	Carnegie Mellon Univ.
Co-Chair: Sugihara, Tomomichi	Kyushu Univ.

16:00-16:20	TuIVT1.1

Interactive Control of Humanoid Navigation, pp. 3519-3524. Attachment

Chestnutt, Joel	National Inst. of Advanced Industrial Science and Tech.
Nishiwaki, Koichi	National Inst. of AIST
Kuffner, James	Carnegie Mellon Univ.
Kagami, Satoshi	National Inst. of AIST

16:20-16:40	TuIVT1.2

Self-Consistent Automatic Navigation of COM and Feet for Realtime Humanoid Robot Steering, pp. 3525-3530.

Kobayashi, Hidehito, Hidehito	Kyushu Univ.
Sugihara, Tomomichi	Kyushu Univ.

16:40-17:00	TuIVT1.3

Online Motion Planning for HOAP-2 Humanoid Robot Navigation, pp. 3531-3536.

Elmogy, Mohammed	Hamburg Univ.
Habel, Christopher	Univ. of Hamburg
Zhang, Jianwei	Univ. of Hamburg

17:00-17:20	TuIVT1.4

Composing and Coordinating Body Models of Arbitrary Connectivity and Redundancy: A Biomimetic, Field Computing Approach, pp. 3537-3542.

Mohan, Vishwanathan	Istituto Italiano di Tecnologia
Metta, Giorgio	Univ. of Genoa
Morasso, Pietro Giovanni	Univ. of Genoa
Zenzeri, Jacopo	Univ. of Genova

17:20-17:40	TuIVT1.5

Biped Navigation in Rough Environments Using On-Board Sensing, pp. 3543-3548. Attachment

Chestnutt, Joel	National Inst. of Advanced Industrial Science and Tech.
Takaoka, Yutaka	Toyota Mortor Corp.
Suga, Keisuke	TOYOTA motor Corp.
Nishiwaki, Koichi	National Inst. of AIST
Kuffner, James	Carnegie Mellon Univ.
Kagami, Satoshi	National Inst. of AIST

TuIVT2	Grand B

Rehabilitation Robotics III (Regular Sessions)

Chair: Grigorescu, Sorin Mihai	Univ. of Bremen
Co-Chair: De Silva, Ravindra Senarathna	Toyota Tech. Inst.

16:00-16:20	TuIVT2.1

Physiological Musculoskeletal Model Identification for the Lower Limbs Control of Paraplegic under Implanted FES, pp. 3549-3554.

Benoussaad, Mourad	LIRMM UMR CNRS-Univ. of Montpellier2
Guiraud, David	INRIA
Poignet, Philippe	LIRMM UMR 5506 CNRS UM2

16:20-16:40	TuIVT2.2

Evaluation of a Robot-Assisted Rehabilitation System with Assist-As-Needed and Visual Error Augmentation Training Methods, pp. 3555-3560.

Wang, Furui	Vanderbilt Univ.
Erol Barkana, Duygun	Yeditepe Univ.
Sarkar, Nilanjan	Vanderbilt Univ.

16:40-17:00	TuIVT2.3

Therapeutic-Assisted Robot for Children with Autism, pp. 3561-3567.

De Silva, Ravindra Senarathna	Toyota Tech. Inst.
Tadano, Katsunori	Toyota Tech. Inst.
Saito, Azusa	Univ. of Aizu
Lambacher, Stephen G.	Aoyama Gakuin Univ.
Higashi, Masatake	Toyota Tech. Inst.

17:00-17:20	TuIVT2.4

An Assistive Mask with Biorobotic Control to Enhance Facial Expressiveness, pp. 3568-3573.

Jayatilake, Prabhath Dushyantha	Univ. of Tsukuba
Takahashi, Keisuke	Univ. of Tsukuba
Suzuki, Kenji	Univ. of Tsukuba

17:20-17:40	TuIVT2.5

ROVIS: RObust Machine VIsion for Service Robotic System FRIEND, pp. 3574-3581.

Grigorescu, Sorin Mihai	Univ. of Bremen
Ristic-Durrant, Danijela	Univ. of Bremen
Gräser, Axel	Univ. of Bremen

TuIVT3	Grand C

Mapping IV (Regular Sessions)

Chair: Yuta, Shinichi	Univ. of Tsukuba
Co-Chair: Choi, Jinwoo	POSTECH

16:00-16:20	TuIVT3.1

Incremental Topological Modeling Using Sonar Gridmap in Home Environment, pp. 3582-3587.

Choi, Jinwoo — POSTECH
Choi, Minyong — POSTECH
Chung, Wan Kyun — POSTECH

16:20-16:40	TuIVT3.2

Vehicle 3D Localization in Mountainous Woodland Environments, pp. 3588-3594.

Morales Saiki, Luis Yoichi — U of Tsukuba, Intelligent Robot Lab.
Tsubouchi, Takashi — Univ. of Tsukuba
Yuta, Shinichi — Univ. of Tsukuba

16:40-17:00	TuIVT3.3

An Experimental Assessment of the HSM3D Algorithm for Sparse and Colored Data, pp. 3595-3600.

Carpin, Stefano — Univ. of California, Merced
Censi, Andrea — California Inst. of Tech.

17:00-17:20	TuIVT3.4

Model-Based and Learned Semantic Object Labeling in 3D Point Cloud Maps of Kitchen Environments, pp. 3601-3608. Attachment

Rusu, Radu Bogdan — Tech. Univ. Muenchen
Marton, Zoltan-Csaba — Tech. Univ. Muenchen
Blodow, Nico — Computer Science Department, Tech. Univ.
Holzbach, Andreas — Tech. Univ. Muenchen
Beetz, Michael — Tech. Univ. München

17:20-17:40	TuIVT3.5

Improving Topological Maps for Safer and Robust Navigation, pp. 3609-3614.

Murillo, Ana Cristina — Univ. of Zaragoza
Abad, Pablo — Univ. of Zaragoza
Guerrero, J.J. — Univ. de Zaragoza
Sagues, Carlos — Univ. de Zaragoza

TuIVT4 — Grand F
Snake-Like Robot (Regular Sessions)

Chair: Ma, Shugen — Shenyang Inst. of Automation, Chinese Acad. of Sciences
Co-Chair: Takita, Yoshihiro — National Defense Acad.

16:00-16:20	TuIVT4.1

Controllability Analysis of Planar Snake Robots Influenced by Viscous Ground Friction, pp. 3615-3622.

Liljebäck, Pål — SINTEF IKT
Pettersen, Kristin Y. — Norwegian Univ. of Science and Tech.
Stavdahl, Řyvind — Norwegian Univ. of Science and Tech. (NTNU)
Gravdahl, Jan Tommy — Norwegian Univ. of Science and Tech.

16:20-16:40	TuIVT4.2

Stability Analysis of Snake Robot Locomotion Based on Poincaré Maps, pp. 3623-3630.

Liljebäck, Pål — SINTEF IKT
Pettersen, Kristin Y. — Norwegian Univ. of Science and Tech.
Stavdahl, Řyvind — Norwegian Univ. of Science and Tech. (NTNU)
Gravdahl, Jan Tommy — Norwegian Univ. of Science and Tech.

16:40-17:00	TuIVT4.3

Dynamic Modeling for Locomotion-Manipulation of a Snake-Like Robot by Using Geometric Methods, pp. 3631-3636.

Wang, Zhifeng — Shenyang Inst. of Automation, CAS
Ma, Shugen — Ritsumeikan Univ.
Li, Bin — Shenyang Inst. of Automation
Wang, Yuechao — Shenyang Inst. of Automation

17:00-17:20	TuIVT4.4

An Electricity-Free Snake-Like Propulsion Mechanism Driven and Controlled by Fluids, pp. 3637-3642. Attachment

Date, Hisashi — National Defense Acad.
Takita, Yoshihiro — National Defense Acad.

17:20-17:40	TuIVT4.5

Modeling and Path-Following for a Snake-Robot with Active Wheels, pp. 3643-3650.

Murugendran, Boathy — Norwegian Univ. of Science and Tech.
Transeth, Aksel Andreas — SINTEF ICT
Fjerdingen, Sigurd Aksnes — SINTEF ICT

TuIVT5 — Grand G
Sensing Systems and Algorithms (Regular Sessions)

Chair: Ohara, Kenichi — Osaka Univ.
Co-Chair: Arai, Tatsuo — Osaka Univ.

16:00-16:20	TuIVT5.1

Joint Calibration of Multiple Sensors, pp. 3651-3658. Attachment

Le, Quoc — Stanford Univ.
Ng, Andrew — Stanford Univ.

16:20-16:40	TuIVT5.2

2.5D Infrared Range and Bearing System for Collective Robotics, pp. 3659-3664.

Roberts, James F.	Ec. Pol. Fédérale de Lausanne
Stirling, Timothy	EPFL
Zufferey, Jean-Christophe	EPFL
Floreano, Dario	Ec. Pol. Federal, Lausanne

16:40-17:00	TuIVT5.3

A Method of Target Recognition from Remote Sensing Images, pp. 3665-3670.

Fu, Yili	Harbin Inst. of Tech.
Xing, Kun	Harbin Inst. of Tech.
Han, Xianwei	Harbin Inst. of Tech.
Wang, Shuguo	Harbin Inst. of Tech.

17:00-17:20	TuIVT5.4

Development of High-Speed and Real-Time Vision Platform, H3 Vision, pp. 3671-3678. Attachment

Ishii, Idaku	Hiroshima Univ.
Taniguchi, Taku	Hiroshima Univ.
Sukenobe, Ryo	Hiroshima Univ.
Yamamoto, Kenkichi	Hiroshima Univ.

17:20-17:40	TuIVT5.5

Detection Sensor for Flowing Particles in Micro Channel, pp. 3679-3684.

Okuda, Ichiro	Osaka Univ.
Arai, Tatsuo	Osaka Univ.
Takubo, Tomohito	Osaka Univ.
Hasegawa, Akiyuki	Osaka Univ.
Mae, Yasushi	Osaka Univ.
Ohara, Kenichi	Osaka Univ.

TuIVT6	Grand H

Haptics IV (Regular Sessions)

| Chair: Carignan, Craig | Georgetown Univ. |
| Co-Chair: Niemeyer, Gunter | Willow Garage and Stanford Univ. |

16:00-16:20	TuIVT6.1

Towards On-Line Fingertip Bio-Impedance Identification for Enhancement of Electro-Tactile Rendering, pp. 3685-3690.

Gregory, John	Michigan State Univ.
Xi, Ning	Michigan State Univ.
Shen, Yantao	Univ. of Nevada, Reno

16:20-16:40	TuIVT6.2

A Tendon Skeletal Finger Model for Evaluation of Pinching Effort, pp. 3691-3696.

Ikeda, Atsutoshi	Nara Inst. of Science and Tech.
Kurita, Yuichi	Nara Inst. of Science and Tech.
Ogasawara, Tsukasa	Nara Inst. of Science and Tech.

16:40-17:00	TuIVT6.3

Development of an Exoskeleton Haptic Interface for Virtual Task Training, pp. 3697-3702.

Carignan, Craig	Georgetown Univ. ISIS Center
Tang, Jonathan	Georgetown Univ.
Roderick, Stephen	Univ. of Maryland

17:00-17:20	TuIVT6.4

An Exoskeleton Master Hand for Controlling DLR/HIT Dexterous Hand, pp. 3703-3708.

Fang, Honggen	Harbin Inst. of Tech.
Xie, Zongwu	Harbin Inst. of Tech.
Liu, Hong	Harbin Inst. of Tech.

17:20-17:40	TuIVT6.5

Improved Multi-DOF Haptics with Spring Drive Amplifiers, pp. 3709-3714.

| Wilson, Robert | Stanford Univ. |
| Niemeyer, Gunter | Willow Garage and Stanford Univ. |

TuIVT7	Mills 1

Social Human-Robot Interaction (Regular Sessions)

| Chair: Xiao, Jizhong | City Coll. of New York |
| Co-Chair: Wejinya, Uchechukwu C. | Univ. of Arkansas |

16:00-16:20	TuIVT7.1

Real-Time Social Touch Gesture Recognition for Sensate Robots, pp. 3715-3720.

| Knight, Heather | MIT |

16:20-16:40	TuIVT7.2

Psychological Effects on Interpersonal Communication by Bystander Android Using Motions Based on Human-Like Needs, pp. 3721-3726.

Takano, Eri	Osaka Univ.
Chikaraishi, Takenobu	Osaka Univ.
Matsumoto, Yoshio	Osaka Univ.
Nakamura, Yutaka	Osaka Univ.

Ishiguro, Hiroshi	Osaka Univ.
Sugamoto, Kazuomi	Osaka Univ.

16:40-17:00   **TuIVT7.3**

Lexical Entrainment in Human-Robot Interaction: - Can Robots Entrain Human Vocabulary? -, pp. 3727-3734. Attachment

Iio, Takamasa	ATR/Doshisha Univ.
Shiomi, Masahiro	ATR
Shinozawa, Kazuhiko	Advanced Telecommunications Res. Inst.
Miyashita, Takahiro	ATR
Akimoto, Takaaki	ATR
Hagita, Norihiro	ATR

17:00-17:20   **TuIVT7.4**

Gendered Voice and Robot Entities: Perceptions and Reactions of Male and Female Subjects, pp. 3735-3741.

Crowell, Charles R.	Univ. of Notre Dame
Scheutz, Matthias	Indiana Univ. Bloomington
Schermerhorn, Paul	Indiana Univ.
Villano, Michael	Univ. of Notre Dame

17:20-17:40   **TuIVT7.5**

Evaluation of Affective State Estimations Using an On-Line Reporting Device During Human-Robot Interactions, pp. 3742-3749.

Zoghbi, Susana	Univ. of British Columbia
Kulic, Dana	Univ. of Waterloo
Croft, Elizabeth	Univ. of British Columbia
Van der Loos, H.F. Machiel	Univ. of British Columbia (UBC)

TuIVT8   Mills 2
Formation Planning and Control (Regular Sessions)

Chair: Kyriakopoulos, Kostas	National Tech. Univ. of Athens
Co-Chair: Lien, Jyh-Ming	George Mason Univ.

16:00-16:20   **TuIVT8.1**

A Discrete Grid Abstraction for Formation Control in the Presence of Obstacles, pp. 3750-3755.

Miklic, Damjan	Univ. of Zagreb
Bogdan, Stjepan	Univ. of Zagreb
Fierro, Rafael	Univ. of New Mexico
Nestic, Sanjin	Univ. of Zagreb

16:20-16:40   **TuIVT8.2**

Decentralized Lattice Formation Control for Micro Robotic Swarms, pp. 3756-3761.

Lionis, Grigoris	National Tech. Univ. of Athens
Kyriakopoulos, Kostas	National Tech. Univ. of Athens

16:40-17:00   **TuIVT8.3**

Potential Based Control Strategy for Arbitrary Shape Formations of Mobile Robots, pp. 3762-3767.

Sabattini, Lorenzo	Univ. of Modena and Reggio Emilia
Secchi, Cristian	Univ. of Modena & Reggio Emilia
Fantuzzi, Cesare	Univ. di Modena e Reggio Emilia

17:00-17:20   **TuIVT8.4**

Behavior-Based Motion Planning for Group Control, pp. 3768-3773.

Vo, Christopher	George Mason Univ.
Harrison, Joseph F.	George Mason Univ.
Lien, Jyh-Ming	George Mason Univ.

17:20-17:40   **TuIVT8.5**

A Dynamic Priority Strategy in Decentralized Motion Planning for Formation Forming of Multiple Mobile Robots, pp. 3774-3779.

Liu, Shuang	Suzhou Res. Inst. of City Univ. of HongKongand the
Sun, Dong	City Univ. of Hong Kong
Zhu, Changan	Univ. of Science and Tech. of China
Shang, Wen	City Univ. of Hong Kong

TuIVT9   Mills 3
Surveillance with Vision (Regular Sessions)

Chair: Song, Dezhen	Texas A&M Univ.
Co-Chair: Yamashita, Atsushi	Shizuoka Univ.

16:00-16:20   **TuIVT9.1**

Issues and Solutions in Surveillance Camera Placement, pp. 3780-3785.

Fehr, Duc	Univ. of Minnesota
Fiore, Loren	UMN
Papanikolopoulos, Nikos	Univ. of Minnesota

16:20-16:40   **TuIVT9.2**

Real Time Tracking Using an Active Pan-Tilt-Zoom Network Camera, pp. 3786-3793. Attachment

Dinh, Thang	Univ. of Southern California
Yu, Qian	Univ. of Southern California
Medioni, Gerard	Univ. of Southern California

16:40-17:00	TuIVT9.3

Noises Removal from Image Sequences Acquired with Moving Camera by Estimating Camera Motion from Spatio-Temporal Information, pp. 3794-3801. Attachment

Yamashita, Atsushi	Shizuoka Univ.
Fukuchi, Isao	Shizuoka Univ.
Kaneko, Toru	Shizuoka Univ.

17:00-17:20	TuIVT9.4

Systems and Algorithms for Autonomously Simultaneous Observation of Multiple Objects Using Robotic PTZ Cameras Assisted by a Wide-Angle Camera, pp. 3802-3807.

Xu, Yiliang	Texas A&M Univ.
Song, Dezhen	Texas A&M Univ.

17:20-17:40	TuIVT9.5

Hopping Odometry: Motion Estimation Using Selective Vision, pp. 3808-3813.

So, Edmond Wai Yan	The Graduate Univ. for Advanced Studies
Yoshimitsu, Tetsuo	Japan Aerospace Exploration Agency
Kubota, Takashi	JAXA ISAS

TuIVT10	Mills 4

Advanced Industrial Robot Applications (Invited Sessions)

Chair: Chen, Heping	ABB Inc.

16:00-16:20	TuIVT10.1

Robotic Wheel Loading Process in Automotive Manufacturing Automation, pp. 3814-3819.

Chen, Heping	ABB Inc.
Eakins, William	ABB Inc.
Wang, Jianjun	ABB Inc
Zhang, George	ABB Corp. Res. Center
Fuhlbrigge, Thomas	ABB Inc.

16:20-16:40	TuIVT10.2

Robotic De-Palletizing Using Uncalibrated Vision and 3D Laser-Assisted Image Analysis, pp. 3820-3825.

Zhang, Biao	ABB Inc.
Skaar, Steven B.	Univ. of Notre Dame

16:40-17:00	TuIVT10.3

Improving Machining Accuracy with Robot Deformation Compensation, pp. 3826-3831.

Wang, Jianjun	ABB Inc
Zhang, Hui	ABB
Fuhlbrigge, Thomas	ABB Inc.

17:00-17:20	TuIVT10.4

Objective Metric Study for DOE-Based Parameter Optimization in Robotic Torque Converter Assembly, pp. 3832-3837.

Gravel, David	Ford Motor Company
Zhang, George	ABB Corp. Res. Center
Zhang, Biao	ABB Inc.

17:20-17:40	TuIVT10.5

Development and Sensitivity Analysis of a Portable Calibration System for Joint Offset of Industrial Robot, pp. 3838-3843.

Liu, Yong	Michigan State Univ.
Xi, Ning	Michigan State Univ.
Zhao, Jianguo	Michigan State Univ.
Nieves-Rivera, Erick	Michigan State Univ.
Jia, Yunyi	Michigan State Univ.
Gao, Bingtuan	Michigan State Univ.
Lu, Jun	Michigan State Univ.

TuIVT11	Mills 5

Networked Robots II (Regular Sessions)

Chair: Sanfeliu, Alberto	Univ. Pol. de Cataluyna
Co-Chair: Isler, Volkan	Univ. of Minnesota

16:00-16:20	TuIVT11.1

Task Oriented Control of Smart Camera Systems in the Context of Mobile Service Robots, pp. 3844-3849.

Bistry, Hannes	Univ. of Hamburg, Germany
Zhang, Jianwei	Univ. of Hamburg

16:20-16:40	TuIVT11.2

Integrating Asynchronous Observations for Mobile Robot Position Tracking in Cooperative Environments, pp. 3850-3855. Attachment

Corominas Murtra, Andreu	CSIC-UPC
Mirats Tur, Josep M.	CSIC-UPC
Sanfeliu, Alberto	Univ. Pol. de Cataluyna

16:40-17:00	TuIVT11.3

Hopping Sensor Relocation in Rugged Terrains, pp. 3856-3861.

Pei, Yuanteng	Michigan State Univ.
Cintron, Fernando	Michigan State Univ.
Mutka, Matt	Michigan State Uinversity

Zhao, Jianguo	Michigan State Univ.
Xi, Ning	Michigan State Univ.

17:00-17:20   TuIVT11.4

A Body Sensor Network for Tracking and Monitoring of Functional Arm Motion, pp. 3862-3867.

Nguyen, Kim Doang	Nanyang Tech. Univ.
Chen, I-Ming	Nanyang Tech. Univ.
Luo, Zhiqiang	Nanyang Tech. Univ.
Yeo, Song Huat	Nanyang Tech. Univ.
Duh, Henry	National Univ. of Singapore

17:20-17:40   TuIVT11.5

Data Gathering Tours for Mobile Robots, pp. 3868-3873.

Bhadauria, Deepak	Univ. of Minnesota
Isler, Volkan	Univ. of Minnesota

TuIVT12   Mills 6
Aerial Robotics III (Regular Sessions)

Chair: Nonami, Kenzo	Chiba Univ.
Co-Chair: Campos, Mario F. Montenegro	Federal Univ. of Minas Gerais

16:00-16:20   TuIVT12.1

An Experimental Study of Hierarchical Autopilot for Untrimmed Hingeless Helicopters, pp. 3874-3879. Attachment

Lau, Tak Kit	The Chinese Univ. of Hong Kong
Liu, Yunhui	Chinese Univ. of Hong Kong
Lin, Kai Wun	The Chinese Univ. of Hong Kong

16:20-16:40   TuIVT12.2

UAV Global Pose Estimation by Matching Forward-Looking Aerial Images with Satellite Images, pp. 3880-3887.

Son, Kil-Ho	ADD
Hwang, Youngbae	KAIST
Kweon, In So	KAIST

16:40-17:00   TuIVT12.3

A Visual Navigation System for Autonomous Flight of Micro Air Vehicles, pp. 3888-3893.

Kendoul, Farid	Chiba Univ.
Nonami, Kenzo	Chiba Univ.

17:00-17:20   TuIVT12.4

A Path Planning Algorithm for UAVs with Limited Climb Angle, pp. 3894-3899.

Alves Neto, Armando	Univ. Federal de Minas Gerais
Campos, Mario F. Montenegro	Federal Univ. of Minas Gerais

17:20-17:40   TuIVT12.5

Autonomous Altitude Estimation of a UAV Using a Single Onboard Camera, pp. 3900-3905.

Cherian, Anoop	U. of Minnesota
Andersh, Jonathan	Univ. of Minnesota
Morellas, Vassilios	U. of Minnesota
Papanikolopoulos, Nikos	Univ. of Minnesota
Mettler, Bernard	Univ. of Minnesota

TuIVT13   Mills 7
Motion Planning for Mobile Robots (Regular Sessions)

Chair: Xiao, Jizhong	City Coll. of New York
Co-Chair: Zhu, Chun	Oklahoma State Univ.

16:00-16:20   TuIVT13.1

Visual Steering of UAV in Unknown Environments, pp. 3906-3911.

Yuan, Chunrong	Eberhard Karls Univ. of Tübingen
Recktenwald, Fabian	Univ. of Tübingen
Mallot, Hanspeter	Eberhard Karls Univ. of Tübingen

16:20-16:40   TuIVT13.2

Finding and Exploiting Goal Opportunities in Real-Time During Plan Execution, pp. 3912-3917.

Schermerhorn, Paul	Indiana Univ.
Benton, J.	Arizona State Univ.
Scheutz, Matthias	Indiana Univ. Bloomington
Talamadupula, Kartik	Arizona State Univ.
Kambhampati, Subbarao	Arizona State Univ.

16:40-17:00   TuIVT13.3

High-Speed Plannning and Reducing Memory Usage of a Precomputed Search Tree Using Pruning, pp. 3918-3923.

Suzuki, Yumiko	Nara Inst. of Science and Tech.
Thompson, Simon	National Inst. of Advanced Industrial Science
Kagami, Satoshi	National Inst. of AIST

17:00-17:20   TuIVT13.4

Efficient Cost Computation in Cost Map Planning for Non-Circular Robots, pp. 3924-3930.

King, Jennifer	Univ. of Pennsylvania
Likhachev, Maxim	Univ. of Pennsylvania

17:20-17:40	TuIVT13.5
Planning-Based Prediction for Pedestrians, pp. 3931-3936. Attachment	
Ziebart, Brian	Carnegie Mellon Univ.
Ratliff, Nathan	Toyota Tech. Inst.
Gallagher, Garratt	Carnegie Mellon Univ.
Mertz, Christoph	CMU
Peterson, Kevin M	Carnegie Mellon Univ.
Bagnell, James	Carnegie Mellon Univ.
Hebert, Martial	CMU
Dey, Anind	Carnegie Mellon Univ.
Srinivasa, Siddhartha	Intel Res. Pittsburgh

TuIVT14	Mills 8
Artificial Intelligence (Regular Sessions)	
Chair: Christensen, Henrik Iskov	Georgia Inst. of Tech.
Co-Chair: Choi, Dongkyu	CSLI, Stanford Univ.
16:00-16:20	TuIVT14.1
Mathematical Modeling of the Prediction Mechanism of Sensory Processing in the Context of a Bayes Filter, pp. 3937-3942.	
Zhang, Guoxuan	Hanyang Univ.
Suh, Il Hong	Hanyang Univ.
16:20-16:40	TuIVT14.2
Grounding of Word Meanings in Multimodal Concepts Using LDA, pp. 3943-3948.	
Nakamura, Tomoaki	Univ. of Electro-Communications
Nagai, Takayuki	Univ. of Electro-Communications
Iwahashi, Naoto	National Inst. ofInformationandCommunicationsTechnology
16:40-17:00	TuIVT14.3
Knowledge-Based Control of a Humanoid Robot, pp. 3949-3954.	
Choi, Dongkyu	CSLI, Stanford Univ.
Kang, Yeonsik	KIST
Lim, Heonyoung	Seoul National Univ.
You, Bum Jae	KIST
17:00-17:20	TuIVT14.4
Decomposition Algorithm for Global Reachability Analysis on a Time-Varying Graph with an Application to Planetary Exploration, pp. 3955-3960.	
Kuwata, Yoshiaki	JPL
Blackmore, Lars	Jet Propulsion Lab. California Inst. of
Wolf, Michael	NASA Jet Propulsion Lab.
Fathpour, Nanaz	Jet Propulsion Lab.
Newman, Claire	California Inst. of Tech.
Elfes, Alberto	Jet Propulsion Lab.
17:20-17:40	TuIVT14.5
Adding Diagnostics to Intelligent Robot Systems, pp. 3961-3967.	
Chandrababu, Sneha	Georgia Tech.
Christensen, Henrik Iskov	Georgia Inst. of Tech.

TuIVT15	Sterling 6
Robot Localization II (Regular Sessions)	
Chair: Parnichkun, Manukid	Asian Inst. of Tech.
Co-Chair: Bori, Francesco	Univ. degli Studi
16:00-16:20	TuIVT15.1
A Fitness-Sharing Based Genetic Algorithm for Collaborative Multi Robot Localization, pp. 3968-3973. Attachment	
Gasparri, Andrea	Univ. degli Studi Roma Tre
Panzieri, Stefano	Univ. Roma Tre
Bori, Francesco	Univ. degli Studi "Roma Tre"
16:20-16:40	TuIVT15.2
Mutual Localization in a Multi-Robot System with Anonymous Relative Position Measures, pp. 3974-3980. Attachment	
Franchi, Antonio	Univ. di Roma
Oriolo, Giuseppe	Univ. di Roma "La Sapienza"
Stegagno, Paolo	Univ. La Sapienza, Roma
16:40-17:00	TuIVT15.3
Intelligent Vehicle Localization Using GPS, Compass, and Machine Vision, pp. 3981-3986.	
Limsoonthrakul, Somphop	Asian Inst. of Tech.
Dailey, Matthew N.	Asian Inst. of Tech.
Parnichkun, Manukid	Asian Inst. of Tech.
17:00-17:20	TuIVT15.4
Hierarchical Appearance-Based Classifiers for Qualitative Spatial Localization, pp. 3987-3992.	
Fazl-Ersi, Ehsan	York Univ.
Elder, James	York Univ.
Tsotsos, John	York Univ.

17:20-17:40   TuIVT15.5
Coarse-To-Fine Global Localization for Mobile Robots with Hybrid Maps of Objects and Spatial Layouts, pp. 3993-4000.
    Park, Soonyong   Korea Inst. of Science and Tech.
    Park, Sung-Kee   Korea Inst. of Science and Tech.
    Cheong, Howon   KIST/Yonsei Univ.

TuIVT16   Regency D
View Planning (Regular Sessions)
    Chair: Laugier, Christian   INRIA Rhône-Alpes
    Co-Chair: Frahm, Jan-Michael   The Univ. North Carolina Chapel Hill
16:00-16:20   TuIVT16.1
Developing Visual Sensing Strategies through Next Best View Planning, pp. 4001-4008.
    Dunn, Enrique   UNC Chapel Hill
    van den Berg, Jur   Univ. of North Carolina at Chapel Hill
    Frahm, Jan-Michael   The Univ. North Carolina Chapel Hill
16:20-16:40   TuIVT16.2
Autonomous Switching of Top-Down and Bottom-Up Attention Selection for Vision Guided Mobile Robots, pp. 4009-4014. Attachment
    Xu, Tingting   Tech. Univ. München
    Chenkov, Nikolay Aleksandrov   Bernstein Center for Computational Neuroscience
    Kühnlenz, Kolja   Tech. Univ. München
    Buss, Martin   Tech. Univ. München
16:40-17:00   TuIVT16.3
View Planning for 3D Object Reconstruction, pp. 4015-4020.
    Vasquez Gomez, Juan Irving   INAOE
    López-Damian, Efraín   INAOE
    Sucar, Luis Enrique   Inst. Nacional de Astrafisica, Optica y Electraonica
17:00-17:20   TuIVT16.4
Probabilistic View Planner for 3D Modelling Indoor Environments, pp. 4021-4026.
    López-Damian, Efraín   INAOE
    Etcheverry, Gibran   INAOE
    Sucar, Luis Enrique   Inst. Nacional de Astrafisica, Optica y Electraonica
    López-Estrada, Jesús   UNAM
17:20-17:40   TuIVT16.5
Probabilistic Motion Planning among Moving Obstacles Following Typical Motion Patterns, pp. 4027-4033.
    Fulgenzi, Chiara   INPG, INRIA Rhone Alpes
    Spalanzani, Anne   INRIA Rhône-Alpes
    Laugier, Christian   INRIA Rhône-Alpes

WeIT1   Grand A
Ranging with Sonar, Laser and Lidar (Regular Sessions)
    Chair: Ye, Cang   Univ. of Arkansas at Little Rock
    Co-Chair: Browne, Damien   Monash Univ.
09:10-09:30   WeIT1.1
Extraction of Planar Features from Swissranger SR-3000 Range Images by a Clustering Method Using Normalized Cuts, pp. 4034-4039.
    Hegde, GuruPrasad M.   Univ. of Arkansas at Little Rock
    Ye, Cang   Univ. of Arkansas at Little Rock
09:30-09:50   WeIT1.2
An Advanced Sonar Ring Design with 48 Channels of Continuous Echo Processing Using Matched Filters, pp. 4040-4046.
    Browne, Damien   Monash Univ.
    Kleeman, Lindsay   Monash Univ.
09:50-10:10   WeIT1.3
Pairwise Region-Based Scan Alignment, pp. 4047-4053.
    Silva Rocha Aguiar, Carla   Lab. d'Informatique, d'Electronique et de
    Druon, Sebastien   LIRMM
    Crosnier, André   LIRMM
10:10-10:30   WeIT1.4
A Compensated Sliding-Window DFT Algorithm for Fine-Grained Underwater Acoustic Ranging, pp. 4054-4059.
    Shatara, Stephan   Michigan State Univ.
    Tan, Xiaobo   Michigan State Univ.

WeIT2   Grand B
Rehabilitation Robotics IV (Regular Sessions)
    Chair: Liu, Yunhui   Chinese Univ. of Hong Kong
    Co-Chair: Hauser, Kris   Indiana Univ.
09:10-09:30   WeIT2.1
An Algorithm of Walk Phase Estimation with Only Treadmill Motor Current, pp. 4060-4066.
    Ohki, Eiichi   Waseda Univ.
    Nakashima, Yasutaka   Waseda Univ.
    Ando, Takeshi   Waseda Univ.

Fujie, Masakatsu G.   Waseda Univ.

09:30-09:50   WeIT2.2

A Human Interface for Stride Control on a Wearable Robot, pp. 4067-4072.

Kagawa, Takahiro   Nagoya Univ.
Uno, Yoji   Nagoya Univ.

09:50-10:10   WeIT2.3

Walking Assist Device with Bodyweight Support System, pp. 4073-4079.

Ikeuchi, Yasushi   Honda R&D Co.,Ltd.
Ashihara, Jun   Honda R&D Co., Ltd.
Hiki, Yutaka   Honda R&D Co.,Ltd.
Kudoh, Hiroshi   Honda R&D Co.,Ltd.
Noda, Tatsuya   Honda R&D Co.,Ltd.

10:10-10:30   WeIT2.4

ReachMAN: A Personal Robot to Train Reaching and Manipulation, pp. 4080-4085.

Yeong, Che Fai   Univ. Teknologi Malaysia
Melendez, Alejandro   Imperial Coll. London
Gassert, Roger   ETH Zurich
Burdet, Etienne   imperial Coll. london

WeIT3   Grand C
Medical Surgery Robot (Regular Sessions)

Chair: Bebek, Ozkan   Case Western Res. Univ.
Co-Chair: Takanishi, Atsuo   Waseda Univ.

09:10-09:30   WeIT3.1

Objective Skill Analysis and Assessment of Neurosurgery by Using the Waseda Bioinstrumentation System WB-3 – Pilot Tests –, pp. 4086-4091.

Sessa, Salvatore   Waseda Univ.
Zecca, Massimiliano   Waseda Univ.
Lin, Zhuohua   Waseda Univ.
Sasaki, Tomoya   Waseda Univ.
Suzuki, Takashi   Tokyo Women's Medical Univ.
Itoh, Kazuko   Waseda Univ.
Iseki, Hiroshi   Tokyo Women's Medical Univ.
Takanishi, Atsuo   Waseda Univ.

09:30-09:50   WeIT3.2

Surgical Retraction of Non-Uniform Deformable Layers of Tissue: 2D Robot Grasping and Path Planning, pp. 4092-4097. Attachment

Jansen, Rik   Univ. of Utrecht
Hauser, Kris   UC Berkeley
Chentanez, Nuttapong   Univ. of California at Berkeley
van der Stappen, Frank   Utrecht Univ.
Goldberg, Ken   UC Berkeley

09:50-10:10   WeIT3.3

Design and Characterization of a 7-DOF Haptic Interface for a Minimally Invasive Surgery Test-Bed, pp. 4098-4103.

Bassan, Harmanpreet   The Univ. of Western Ontario
Talasaz, Ali   Univ. of Western Ontario
Patel, Rajni   The Univ. of Western Ontario

10:10-10:30   WeIT3.4

Kinematic Calibration of a Parallel Robot for Small Animal Biopsies, pp. 4104-4109.

Hwang, Myun Joong   Case Western Res. Univ.
Bebek, Ozkan   Case Western Res. Univ.
Liang, Fan   Case Werstern Res. Univ.
Fei, Baowei   Case Western Res. Univ.
Cavusoglu, M. Cenk   Case Western Res. Univ.

WeIT4   Grand F
Robot Vehicles I (Regular Sessions)

Chair: Siegwart, Roland   ETH Zurich
Co-Chair: Ishikawa, Jun   Tokyo Denki Univ.

09:10-09:30   WeIT4.1

Dynamics and Control of an Omnidirectional Unmanned Ground Vehicle, pp. 4110-4115.

Khan, Imad   Illinois Inst. of Tech.
Spenko, Matthew   Illinois Inst. of Tech.

09:30-09:50   WeIT4.2

Compact Magnetic Wheeled Robot for Inspecting Complex Shaped Structures in Generator Housings and Similar Environments, pp. 4116-4121. Attachment

Fischer, Wolfgang   ETH Zürich
Caprari, Gilles   ETHZ
Siegwart, Roland   ETH Zurich
Moser, Roland   ALSTOM

09:50-10:10 WeIT4.3

Parameter Identification for Planetary Soil Based on Decoupled Analytical Wheel-Soil Interaction Terramechanics Model, pp. 4122-4127.

Ding, Liang — Harbin Inst. of Tech.
Yoshida, Kazuya — Tohoku Univ.
Nagatani, Keiji — Tohoku Univ.
Gao, Haibo — Harbin Inst. of Tech.
Deng, Zongquan — Harbin Inst. of Tech.

10:10-10:30 WeIT4.4

Analysis and Optimization of Obstacle Clearance of Articulated Rovers, pp. 4128-4133. Attachment

Ben Amar, Faiz — Univ. Pierre et Marie Curie, Paris 6
Jarrault, Pierre — Univ. Pierre et Marie Curie Paris 6
Bidaud, Philippe — Univ. Pierre et Marie Curie - Paris 6
Grand, Christophe — Univ. Pierre et Marie Curie - Paris6

WeIT5 — Grand G
Sensor Fusion for Localization & Mapping (Regular Sessions)

Chair: Xiao, Jizhong — City Coll. of New York
Co-Chair: Zakhor, Avideh — Univ. of California, Berkeley

09:10-09:30 WeIT5.1

Image Augmented Laser Scan Matching for Indoor Localization, pp. 4134-4141.

Naikal, Nikhil Santosh — Univ. of California, Berkeley
Kua, John — Univ. of California, Berkeley
Chen, George — UC Berkeley
Zakhor, Avideh — Univ. of California, Berkeley

09:30-09:50 WeIT5.2

Visual and Laser Guided Robot Relocalization Using Lines, Hough Transformation and Machine Learning Techniques, pp. 4142-4147.

Bernal-Marin, Miguel — CINVESTAV, Unidad Guadalajara
Bayro-Corrochano, Eduardo-Jose — CINVESTAV, Unidad Guadalajara

09:50-10:10 WeIT5.3

3D Laser Scan Registration of Dual-Robot System Using Vision, pp. 4148-4153.

Kaushik, Ravi — The City Univ. of New York
Xiao, Jizhong — City Coll. of New York
Morris, William — City Coll. of New York
Zhu, Zhigang — CUNY - City Coll.

10:10-10:30 WeIT5.4

An Efficient Solution to 6DOF Localization Using Unscented Kalman Filter for Planetary Rovers, pp. 4154-4159.

Sakai, Atsushi — Meiji Univ.
Tamura, Yuya — Meiji Univ.
Kuroda, Yoji — Meiji Univ.

WeIT6 — Grand H
Dexterous Manipulation (Regular Sessions)

Chair: Sugano, Shigeki — Waseda Univ.
Co-Chair: Ciocarlie, Matei — Columbia Univ.

09:10-09:30 WeIT6.1

Optimal Tightening Forces for Multi-Fingered Robust Manipulation, pp. 4160-4167.

Michalec, Romain — Commissariat ŕ l'Énergie Atomique
Micaelli, Alain — Commissariat ŕ l'Energie Atomique

09:30-09:50 WeIT6.2

Dexterous Hand-Arm Coordinated Manipulation Using Active Body-Environment Contact, pp. 4168-4173.

Sugaiwa, Taisuke — Waseda Univ.
Yamaguchi, Yasumasa — Waseda Univ.
Iwata, Hiroyasu — Waseda Univ.
Sugano, Shigeki — Waseda Univ.

09:50-10:10 WeIT6.3

Contact Point Clustering Approach for 5-Fingered Regrasp Planning, pp. 4174-4179.

Phoka, Thanathorn — Chulalongkorn Univ.
Sudsang, Attawith — Chulalongkorn Univ.

10:10-10:30 WeIT6.4

A Method for Handling a Specific Part of Clothing by Dual Arms, pp. 4180-4185. Attachment

Kita, Yasuyo — Inst. of Advanced Industrial Sci. & Tech.
Ueshiba, Toshio — National Inst. of Advanced Industrial Science and
Neo, Ee Sian — National Inst. of Advanced Industrial Science and Tech.
Kita, Nobuyuki — National Inst. of Advanced Industrial Science andTechnology

WeIT7 — Mills 1
Learning and Adaptive Systems (Regular Sessions)

Chair: Okuno, Hiroshi G. — Kyoto Univ.
Co-Chair: Nunes, Urbano — Univ. of Coimbra

09:10-09:30	WeIT7.1

Emergence of Evolutionary Interaction with Voice and Motion between Two Robots Using RNN, pp. 4186-4192.

Hinoshita, Wataru	Kyoto Univ.
Ogata, Tetsuya	Kyoto Univ.
Kozima, Hideki	Miyagi Univ.
Kanda, Hisashi	Informatics, Kyoto Univ.
Takahashi, Toru	Kyoto Univ.
Okuno, Hiroshi G.	Kyoto Univ.

09:30-09:50	WeIT7.2

A Brain Computer Interface Methodology Based on a Visual P300 Paradigm, pp. 4193-4198.

Pires, Gabriel	Univ. of Coimbra
Nunes, Urbano	Univ. of Coimbra

09:50-10:10	WeIT7.3

An Imitation Model Based on Central Pattern Generator with Application in Robotic Marionette Behavior Learning, pp. 4199-4205.

Ajallooeian, Mostafa	Robolab, Ec. dept. Faculty of Engineering, Univ. of Tehran,
Nili Ahmadabadi, Majid	Univ. of Tehran
Nadjar Araabi, Babak	Univ. of Tehran
Moradi, Hadi	The Univ. of Tehran, Robotics and AI Lab.

10:10-10:30	WeIT7.4

Consideration on Robotic Giant-Swing Motion Generated by Reinforcement Learning, pp. 4206-4211.

Hara, Masayuki	École Pol. Fédérale de Lausanne
Kawabe, Naoto	The Univ. of Tokyo
Sakai, Naoki	Yokohama National Univ.
Huang, Jian	Kinki Univ.
Bleuler, Hannes	Ec. Pol. Federale de Lausanne
Yabuta, Tetsuro	Yokohama National Univ.

WeIT8	Mills 2

Dynamic Modeling and Control (Regular Sessions)

Chair: Spenko, Matthew	Illinois Inst. of Tech.
Co-Chair: Chuy, Oscar Jr.	Florida A & M Univ. -Florida State Univ. COE

09:10-09:30	WeIT8.1

Dynamic Modeling of a Skid-Steered Wheeled Vehicle with Experimental Verification, pp. 4212-4219.

Yu, Wei	FAMU-FSU Coll. of Engineering
Chuy, Oscar Jr.	Florida A & M Univ. -Florida State Univ. COE
Collins, Emmanuel	FAMU-FSU Coll. of Engineering
Hollis, Patrick	FAMU-FSU Coll. of Engineering

09:30-09:50	WeIT8.2

Dynamic Yaw and Velocity Control of the 6WD Skid-Steering Mobile Robot RobuROC6 Using Sliding Mode Technique, pp. 4220-4225.

Lucet, Eric	Univ. Pierre et Marie Curie - Paris6
Grand, Christophe	Univ. Pierre et Marie Curie - Paris6
Sallé, Damien	ROBOSOFT
Bidaud, Philippe	Univ. Pierre et Marie Curie - Paris 6

09:50-10:10	WeIT8.3

Execution of Dynamic Maneuvers for Unmanned Ground Vehicles Using Variable Internal Inertial Properties, pp. 4226-4231.

Nie, Chenghui	Illinios Inst. of Tech.
Cusi Van Dooren, Simo	Illinois Inst. of Tech.
Shah, Jainam	Illinois Inst. of Tech.
Spenko, Matthew	Illinois Inst. of Tech.

10:10-10:30	WeIT8.4

Swinging up and Stabilization Control of Double Furuta Pendulum by Safe Manual Control, pp. 4232-4237. Attachment

Noguchi, Keigo	Tokyo Denki Univ.
Izutsu, Masaki	Tokyo Denki Univ.
Kamamichi, Norihiro	Tokyo Denki Univ.
Ishikawa, Jun	Tokyo Denki Univ.
Furuta, Katsuhisa	Tokyo Denki Univ.

WeIT9	Mills 3

Personal Robots (Regular Sessions)

Chair: Beetz, Michael	Tech. Univ. München
Co-Chair: Chitta, Sachin	Willow Garage Inc.

09:10-09:30	WeIT9.1

Object Dynamics Virtualization by Robotic Assistance for Cooperative Object Handling with Human, pp. 4238-4244. Attachment

Ishikawa, Jun	Tokyo Denki Univ.
Sakai, Atsushi	Tokyo Denki Univ.
Furuta, Katsuhisa	Tokyo Denki Univ.

09:30-09:50	WeIT9.2

Real-Time Perception-Guided Motion Planning for a Personal Robot, pp. 4245-4252. Attachment

Rusu, Radu Bogdan	Tech. Univ. Muenchen
Sucan, Ioan Alexandru	Rice Univ.

Gerkey, Brian	Willow Garage
Chitta, Sachin	Willow Garage Inc.
Beetz, Michael	Tech. Univ. München
Kavraki, Lydia	Rice Univ.

09:50-10:10	WeIT9.3

A Framework for Planning Comfortable and Customizable Motion of an Assistive Mobile Robot, pp. 4253-4260.

Gulati, Shilpa	Univ. of Texas at Austin
Jhurani, Chetan	Univ. of Texas at Austin
Kuipers, Benjamin	Univ. of Michigan
Longoria, Raul	Univ. of Texas at Austin

10:10-10:30	WeIT9.4

KnowRob   Knowledge Processing for Autonomous Personal Robots, pp. 4261-4266.

Tenorth, Moritz	TU München
Beetz, Michael	Tech. Univ. München

WeIT10	Mills 4
Object Detection and Recognition (Regular Sessions)	

Chair: Coates, Adam	Stanford Univ.
Co-Chair: Choi, Changhyun	Georgia Inst. of Tech.

09:10-09:30	WeIT10.1

Cognitive Vision for Efficient Scene Processing and Object Categorization in Highly Cluttered Environments, pp. 4267-4274.

Choi, Changhyun	Georgia Inst. of Tech.
Christensen, Henrik Iskov	Georgia Inst. of Tech.

09:30-09:50	WeIT10.2

Combining Harris Interest Points and the SIFT Descriptor for Fast Scale-Invariant Object Recognition, pp. 4275-4280. Attachment

Azad, Pedram	Univ. of Karlsruhe
Asfour, Tamim	Univ. of Karlsruhe
Dillmann, Rüdiger	Univ. of Karlsruhe

09:50-10:10	WeIT10.3

Rapid and Precise Object Detection Based on Color Histograms and Adaptive Bandwidth Mean Shift, pp. 4281-4286.

Chen, Xiaopeng	Beijing Inst. of Tech.
Huang, Qiang	Beijing Inst. of Tech.
Hu, Peng	Inst. of Automation, Chinese Acad. of Sciences
Li, Min	Beijing Inst. of Tech.
Tian, Ye	Beijing Inst. of Tech.
Li, Chen	Beijing Inst. of Tech.

10:10-10:30	WeIT10.4

Scalable Learning for Object Detection with GPU Hardware, pp. 4287-4293.

Coates, Adam	Stanford Univ.
Baumstarck, Paul	Stanford Univ.
Le, Quoc	Stanford Univ.
Ng, Andrew	Stanford Univ.

WeIT11	Mills 5
Monitoring Humans (Regular Sessions)	

Chair: Guglielmelli, Eugenio	Univ. Campus Bio-Medico
Co-Chair: Kundu, Abhijit	IIIT Hyderabad

09:10-09:30	WeIT11.1

3D Human Modeling Using Virtual Multi-View Stereopsis and Object-Camera Motion Estimation, pp. 4294-4299.

DeSouza, Guilherme	Univ. of Missouri-Columbia
Lam, Dao Minh	Univ. of Missouri
Hong, Ruizhi	Univ. of Missouri

09:30-09:50	WeIT11.2

Comparative Study of Representations for Segmentation of Whole Body Human Motion Data, pp. 4300-4305.

Kulic, Dana	Univ. of Waterloo
Nakamura, Yoshihiko	Univ. of Tokyo

09:50-10:10	WeIT11.3

Moving Object Detection by Multi-View Geometric Techniques from a Single Camera Mounted Robot, pp. 4306-4312. Attachment

Kundu, Abhijit	IIIT Hyderabad
Krishna, Madhava	IIIT Hyderabad
Sivaswamy, Jayanthi	IIIT-Hyderabad

10:10-10:30	WeIT11.4

Detecting Pedestrians at Very Small Scales, pp. 4313-4318.

Spinello, Luciano	ETH Zurich
Triebel, Rudolph	Swiss Federal Inst. of Tech.
Siegwart, Roland	ETH Zurich

WeIT12	Mills 6

Robots with Emerging Technologies II (Regular Sessions)

Chair: Maeda, Shingo	Waseda Univ.
Co-Chair: Sanan, Siddharth	Carnegie Mellon Univ.

09:10-09:30	WeIT12.1

Development of Novel Self-Oscillating Gel Actuator for Achievement of Chemical Robot, pp. 4319-4324.

Nakamaru, Satoshi	Waseda Univ.
Maeda, Shingo	Waseda Univ.
Hara, Yusuke	Waseda Univ.
Hashimoto, Shuji	Waseda Univ.

09:30-09:50	WeIT12.2

Chemical Robot–Design of Peristaltic Polymer Gel Actuator, pp. 4325-4330.

Maeda, Shingo	Waseda Univ.
Hara, Yusuke	Waseda Univ.
Yoshida, Ryo	The Univ. of Tokyo
Hashimoto, Shuji	Waseda Univ.

09:50-10:10	WeIT12.3

Robots with Inflatable Links, pp. 4331-4336.

Sanan, Siddharth	Carnegie Mellon Univ.
Moidel, Justin	Carnegie Mellon Univ.
Atkeson, Christopher	CMU

10:10-10:30	WeIT12.4

Mechanical Modeling Characterization of Biological Cells Using Microrobotics Cell Injection Test Bed, pp. 4337-4342.

Tan, Youhua	Suzhou Res. Inst. of City Univ. of HongKong
Sun, Dong	City Univ. of Hong Kong
Huang, Wenhao	Univ. of Science and Tech. of China

WeIT13	Mills 7

Multi-Robot Interaction and Control (Regular Sessions)

Chair: Chong, Nak Young	Japan Advanced Inst. of Sci. and Tech.
Co-Chair: Shimizu, Masahiro	Tohoku Univ.

09:10-09:30	WeIT13.1

Stable and Spontaneous Self-Assembly of a Multi-Robotic System by Exploiting Physical Interaction between Agents, pp. 4343-4348.
Attachment

Suzuki, Kazuya	Tohoku Univ.
Tsukidate, Tsunamichi	Tohoku Univ.
Shimizu, Masahiro	Tohoku Univ.
Ishiguro, Akio	Tohoku Univ.

09:30-09:50	WeIT13.2

Segregation in Swarms of Mobile Robots Based on the Brazil Nut Effect, pp. 4349-4356.

Groß, Roderich	EPFL
Magnenat, Stéphane	EPFL
Mondada, Francesco	EPFL

09:50-10:10	WeIT13.3

Self-Configuring Robot Swarms with Dual Rotating Infrared Sensors, pp. 4357-4362.

Lee, Geunho	Japan Advanced Inst. of Sci. & Tech.
Yoon, Seokhoon	Japan Advanced Inst. of Science and Tech.
Chong, Nak Young	Japan Advanced Inst. of Sci. and Tech.
Christensen, Henrik Iskov	Georgia Inst. of Tech.

10:10-10:30	WeIT13.4

Multiplicative Potential Energy Function for Swarm Control, pp. 4363-4368.

Hou, Saing Paul	Nanyang Tech. Univ.
Cheah, C. C.	Nanyang Tech. Univ.

WeIT14	Mills 8

Planning in Robotic Sensing (Invited Sessions)

Chair: Sheng, Weihua	Oklahoma State Univ.
Co-Chair: Berns, Karsten	Univ. of Kaiserslautern

09:10-09:30	WeIT14.1

Viewpoint Planning for Automated 3D Digitization Using a Low-Cost Mobile Platform (I), pp. 4369-4374.

Zhang, Sijian	Zhejiang Univ.
Yan, Gangfeng	Zhejiang Univ.
Sheng, Weihua	Oklahoma State Univ.

09:30-09:50	WeIT14.2

Reactive Planning for Olfactory-Based Mobile Robots (I), pp. 4375-4380.

Pang, Shuo	Embry-Riddle Aeronautical Univ.

09:50-10:10	WeIT14.3

Develop Feedback Robot Planning Method for 3D Surface Inspection (I), pp. 4381-4386.

Shi, Quan	Michigan State Univ.

Zhang, Chi	Michigan State Univ.
Xi, Ning	Michigan State Univ.
Xu, Jing	Michigan State Univ.

| 10:10-10:30 | WeIT14.4 |

Topological Large-Scale Off-Road Navigation and Exploration RAVON at the European Land Robot Trial 2008 (I), pp. 4387-4392.

Braun, Tim	Univ. of Kaiserslautern
Schäfer, Bernd-Helge	Univ. of Kaiserslautern
Berns, Karsten	Univ. of Kaiserslautern

WeIT15	Sterling 6
Path Planning and Navigation (Regular Sessions)	
Chair: Otte, M.W.	Univ. of Colorado at boulder
Co-Chair: Damas, Bruno	Inst. Superior Técnico

| 09:10-09:30 | WeIT15.1 |

Avoiding Moving Obstacles: The Forbidden Velocity Map, pp. 4393-4398. Attachment

| Damas, Bruno | Inst. Superior Técnico |
| Santos-Victor, José | Inst. Superior Técnico - Inst. for Systems and Robotics |

| 09:30-09:50 | WeIT15.2 |

Adaptive Node Sampling Method for Probabilistic Roadmap Planners, pp. 4399-4405.

| Park, Byungjae | Pohang Univ. of science and Tech. |
| Chung, Wan Kyun | POSTECH |

| 09:50-10:10 | WeIT15.3 |

Extracting Paths from Fields Built with Linear Interpolation, pp. 4406-4413.

| Otte, M.W. | Univ. of Colorado at boulder |
| Grudic, Greg | Univ. of Colorado at Boulder |

| 10:10-10:30 | WeIT15.4 |

Efficient Computation of Level Sets for Path Planning, pp. 4414-4419.

Xu, Bin	Virginia Tech.
Stilwell, Daniel	Virginia Tech.
Kurdila, Andrew	Virginia Tech.

WeIT16	Regency D
Autonomous Marine Robotics (Regular Sessions)	
Chair: Lee, Beom-Hee	Seoul National Univ.
Co-Chair: Englot, Brendan	MIT

| 09:10-09:30 | WeIT16.1 |

3-D Terrain Covering and Map Building Algorithm for an AUV, pp. 4420-4425.

Lee, Tae-Seok	Seoul National Univ.
Choi, Jeong-Sik	Seoul National Univ.
Lee, Jeong-Hee	Seoul National Univ.
Lee, Beom-Hee	Seoul National Univ.

| 09:30-09:50 | WeIT16.2 |

Stability and Robustness Analysis Tools for Marine Robot Localization and SLAM Applications, pp. 4426-4432.

| Englot, Brendan | MIT |
| Hover, Franz | MIT |

| 09:50-10:10 | WeIT16.3 |

A Programming Architecture for Smart Autonomous Underwater Vehicles, pp. 4433-4438.

| Woithe, Hans | Rutgers Univ. |
| Kremer, Ulrich | Rutgers Univ. |

| 10:10-10:30 | WeIT16.4 |

Using Petri Nets to Specify and Execute Missions for Autonomous Underwater Vehicles, pp. 4439-4444.

Palomeras, Narcis	Univ. de Girona - VAT:ESQ6750002E
Ridao, Pere	Univ. de Girona
Silvestre, Carlos Jorge Ferreira Silvestre	Inst. Superior Tecnico
Carreras, Marc	Univ. de Girona

WeIIT1	Grand A
Humanoid Robot I (Regular Sessions)	
Chair: Nenchev, Dragomir	Tokyo City Univ.
Co-Chair: Laumond, Jean-Paul	LAAS-CNRS

| 10:50-11:10 | WeIIT1.1 |

Three–Dimensional Limit Cycle Walking with Joint Actuation, pp. 4445-4450.

Miyahara, Kentaro	Musashi Inst. of Tech.
Harada, Yuzuru	Tokyo City Univ.
Nenchev, Dragomir	Tokyo City Univ.
Sato, Daisuke	Tokyo City Univ.

| 11:10-11:30 | WeIIT1.2 |

Steering a Humanoid Robot by Its Head, pp. 4451-4456. Attachment

| Sreenivasa, Manish N. | LAAS-CNRS |

Soueres, Philippe	LAAS-CNRS
Laumond, Jean-Paul	LAAS-CNRS
Berthoz, Alain	CNRS - Coll. de France

11:30-11:50	WeIIT1.3

Complex Networks of Simple Neurons for Bipedal Locomotion, pp. 4457-4462. Attachment

Allen, Brian	Univ. of California, Los Angeles
Faloutsos, Petros	Univ. of California, Los Angeles

11:50-12:10	WeIIT1.4

Novel Mechanical Design of Biped Robot SHERPA Using 2 DOF Cable Differential Modular Joints, pp. 4463-4468.

Olaru, Ionut Mihai Constantin	CNRS - LIRMM
Krut, Sebastien	LIRMM (CNRS & Univ. Montpellier 2)
Pierrot, François	CNRS - LIRMM

12:10-12:30	WeIIT1.5

Bringing the Compass-Gait Bipedal Walker to Three Dimensions, pp. 4469-4474. Attachment

Gregg, Robert	Univ. of Illinois at Urbana-Champaign
Spong, Mark	Univ. of Texas at Dallas

WeIIT2	Grand B

Rehabilitation Robotics V (Regular Sessions)

Chair: Siqueira, Adriano	Univ. of Sao Paulo
Co-Chair: O'Malley, Marcia	Rice Univ.

10:50-11:10	WeIIT2.1

Gait-Pattern Adaptation Algorithms Based on Neural Network for Lower Limbs Active Orthoses, pp. 4475-4480.

Gomes, Marciel Alberto	Univ. of Sao Paulo
Silveira, Guilherme Lara Machado	Univ. of Sao Paulo
Siqueira, Adriano	Univ. of Sao Paulo

11:10-11:30	WeIIT2.2

Cooperative Walk Control of Paraplegia Patient and Assistive System, pp. 4481-4486.

Hasegawa, Yasuhisa	Univ. of Tsukuba
Jang, Junho	Univ. of Tsukuba
Sankai, Yoshiyuki	Univ. of Tsukuba

11:30-11:50	WeIIT2.3

A Motion Control of a Robotic Walker for Continuous Assistance During Standing, Walking and Seating Operation, pp. 4487-4492.

Chugo, Daisuke	Kwansei Gakuin Univ.
Asawa, Tai	The Univ. of Electro-Communictions
Kitamura, Takuya	The Univ. of Electro-Communications
Jia, Songmin	Univ. of Electro-Communications
Takase, Kunikatsu	Univ. of Electro-communications

11:50-12:10	WeIIT2.4

A New Compliant Motion Control Design of a Walking-Help Robot Based on Motor Current and Speed Measurement, pp. 4493-4498.
Attachment

Song, Kai-Tai	National Chiao Tung Univ.
Lin, Chen-Yang	National Chiao Tung Univ.

12:10-12:30	WeIIT2.5

Intermittency of Slow Arm Movements Increases in Distal Direction, pp. 4499-4504.

Celik, Ozkan	Rice Univ.
Gu, Qin	Univ. of Houston
Deng, Zhigang	Univ. of Houston
O'Malley, Marcia	Rice Univ.

WeIIT3	Grand C

Medical Robotic System (Regular Sessions)

Chair: Abbott, Jake	Univ. of Utah
Co-Chair: Mitsuishi, Mamoru	The Univ. of Tokyo

10:50-11:10	WeIIT3.1

Neurosurgical Robot Design and Interactive Motion Planning for Resection Task, pp. 4505-4510.

Martin, Carole	Blaise Pascal Univ. / French Inst. of Advanced Mechanic
Chapelle, Frédéric	French Inst. for Advanced Mechanics (IFMA) / BlaisePascal Un
Lemaire, Jean-Jacques	CHU Clermont-Ferrand
Gogu, Grigore	Blaise Pascal Univ. and French Inst. ofAdvancedMechanic

11:10-11:30	WeIIT3.2

A Control Framework for the Non-Invasive Ultrasound Theragnostic System, pp. 4511-4516. Attachment

Koizumi, Norihiro	Engineering Synthesis
Seo, Joonho	The Univ. of Tokyo
Mitsuishi, Mamoru	The Univ. of Tokyo

11:30-11:50	WeIIT3.3

Planning Fireworks Trajectories for Steerable Medical Needles to Reduce Patient Trauma, pp. 4517-4522.

Xu, Jijie	Rochester Inst. of Tech.
Duindam, Vincent	Univ. of California, Berkeley

Alterovitz, Ron	Univ. of North Carolina at Chapel Hill
Cunha, J. Adam	Univ. of California, San Francisco
Pouliot, Jean	Univ. of California, San Francisco
Hsu, I-Chow Joe	Univ. of California, San Francisco
Goldberg, Ken	UC Berkeley

| 11:50-12:10 | WeIIT3.4 |

Wide-Angle Localization of Intraocular Devices from Focus, pp. 4523-4528.

Bergeles, Christos	ETH Zurich
Shamaei Ghahfarokhi, Kamran	ETH
Abbott, Jake	Univ. of Utah
Nelson, Bradley J.	ETH Zurich

| 12:10-12:30 | WeIIT3.5 |

Design of a Manipulator System for Hemorrhage Detection and Treatment Using High Intensity Focused Ultrasound, pp. 4529-4534.

Valdivia y Alvarado, Pablo	MIT
Chang, Chu-yin	Energid Tech. Corp.
Hynynen, Kullervo	Univ. of Toronto

WeIIT4 — Grand F
Robot Vehicles II (Regular Sessions)

| Chair: Hirose, Shigeo | Tokyo Inst. of Tech. |
| Co-Chair: Yamakita, Masaki | Tokyo Inst. of Tech. |

| 10:50-11:10 | WeIIT4.1 |

Development of the Arm-Wheel Hybrid Robot "Souki-II", pp. 4535-4540. Attachment

| Mizunuma, Shintaro | Tokyo Inst. of Tech. |

| 11:10-11:30 | WeIIT4.2 |

Controlling Balancer and Steering for Bicycle Stabilization, pp. 4541-4546.

| Keo, Lychek | Tokyo Inst. of Tech. |
| Yamakita, Masaki | Tokyo Inst. of Tech. |

| 11:30-11:50 | WeIIT4.3 |

Coordinated Path Following Control of Multiple Wheeled Mobile Robots through Decentralized Speed Adaptation, pp. 4547-4552.

| Xiang, Xianbo | LIRMM/CNRS |
| Lapierre, Lionel | LIRMM |

| 11:50-12:10 | WeIIT4.4 |

Simultaneous Estimation of Slope Angle and Handling Force When Getting on and Off a Human-Riding Wheeled Inverted Pendulum Vehicle, pp. 4553-4558.

Takei, Toshinobu	Advanced Industrial Science And Tech. (AIST) Japan
Matsumoto, Osamu	National Inst. of Advanced IndustrialScienceandTechnology (A
Komoriya, Kiyoshi	Tokyo Metropolitan Industrial Tech. Res. Inst.

| 12:10-12:30 | WeIIT4.5 |

Entropy-Based Motion Segmentation from a Moving Platform, pp. 4559-4564.

| Min, Hyeun Jeong | Umn |
| Papanikolopoulos, Nikos | Univ. of Minnesota |

WeIIT5 — Grand G
Algorithms for Navigation (Regular Sessions)

| Chair: Chilian, Annett | DLR German Aerospace Center |
| Co-Chair: Alenyŕ, Guillem | CSIC-UPC |

| 10:50-11:10 | WeIIT5.1 |

A Comparison of Three Methods for Measure of Time to Contact, pp. 4565-4570.

Alenyŕ, Guillem	CSIC-UPC
Negre, Amaury	INRIA Rhône-Alpes
Crowley, James L.	INP Grenoble

| 11:10-11:30 | WeIIT5.2 |

Stereo Camera Based Navigation of Mobile Robots on Rough Terrain, pp. 4571-4576.

| Chilian, Annett | DLR German Aerospace Center |
| Hirschmüller, Heiko | German Aerospace Centre |

| 11:30-11:50 | WeIIT5.3 |

Cooperative Robot Team Navigation Strategies Based on an Environment Model, pp. 4577-4583. Attachment

| Urcola, Pablo | Inst. de Investigación en Ingeniería de Aragón, Univ. o |
| Montano, Luis | Univ. de Zaragoza |

| 11:50-12:10 | WeIIT5.4 |

Detection of Non-Flat Ground Surfaces and Roadways Using V-Disparity Images, pp. 4584-4589.

Zhao, Jun	UNSW
Whitty, Mark Albert	Univ. of New South Wales
Katupitiya, Jayantha	The Univ. of New South Wales

| 12:10-12:30 | WeIIT5.5 |

Learning Efficient Policies for Vision-Based Navigation, pp. 4590-4595.

| Hornung, Armin | Univ. of Freiburg |
| Strasdat, Hauke | Univ. of Freiburg |

Bennewitz, Maren   Univ. of Freiburg
Burgard, Wolfram   Univ. of Freiburg

WeIIT6	Grand H
Bilateral Teleoperation (Regular Sessions)	

Chair: Ferre, Manuel   Univ. Pol. de Madrid
Co-Chair: Sirouspour, Shahin   McMaster Univ.

10:50-11:10   WeIIT6.1

Bilateral Teleoperation under Time-Varying Delay Using Wave Variables, pp. 4596-4602.

Satler, Massimo   Scuola Superiore Sant'Anna
Avizzano, Carlo Alberto   Scuola Superiore S. Anna
Frisoli, Antonio   Scuola Superiore Sant'Anna
Tripicchio, Paolo   Percro
Bergamasco, Massimo   Scuola Superiore S.Anna

11:10-11:30   WeIIT6.2

Bilateral Controller Design Based on Transparency in the State Convergence Framework, pp. 4603-4608.

Aracil, Rafael   Univ. Pol. de Madrid
Ferre, Manuel   Univ. Pol. de Madrid
Azorin, Jose M.   Univ. Miguel Hernandez de Elche
Peńa, Cesar   Univ. Pol. de Madrid and Univ. dePamplona

11:30-11:50   WeIIT6.3

A Time-Varying Wave Impedance Approach for Transparency Compensation in Bilateral Teleoperation, pp. 4609-4615.

Rodriguez-Seda, Erick J.   Univ. of Illinois at Urbana-Champaign
Spong, Mark   Univ. of Texas at Dallas

11:50-12:10   WeIIT6.4

Improved Transparency in Bilateral Teleoperation with Variable Time Delay, pp. 4616-4621.

Shahdi, Ali   McMaster Univ.
Sirouspour, Shahin   McMaster Univ.

12:10-12:30   WeIIT6.5

Bounded Environment Passivity of the Classical Position-Force Teleoperation Controller, pp. 4622-4628.

Willaert, Bert   K.U.Leuven
Corteville, Brecht   Katholieke Univ. Leuven
Reynaerts, Dominiek   Div. Production Engineering, Machine Design and Automation,
Van Brussel, Hendrik   Katholieke Univ. Leuven
Vander Poorten, Emmanuel B   Katholieke Univ. Leuven

WeIIT7	Mills 1
Learning Systems (Regular Sessions)	

Chair: Howard, Matthew   Univ. of Edinburgh
Co-Chair: Kira, Zsolt   Georgia Inst. of Tech.

10:50-11:10   WeIIT7.1

Robust Constraint-Consistent Learning, pp. 4629-4636. Attachment

Howard, Matthew   Univ. of Edinburgh
Klanke, Stefan   Univ. of Edinburgh
Gienger, Michael   Honda Res. Inst. Europe
Goerick, Christian   Honda Res. Inst. Europe GmbH
Vijayakumar, Sethu   Univ. of Edinburgh

11:10-11:30   WeIIT7.2

Multiscale Sensing with Stochastic Modeling, pp. 4637-4643.

Budzik, Diane   UCLA
Singh, Amarjeet   Univ. of California, Los Angeles
Batalin, Maxim   CENS, UCLA
Kaiser, William   UCLA

11:30-11:50   WeIIT7.3

Structure Learning for Activity Recognition in Robot Assisted Intelligent Environments, pp. 4644-4649.

McIlwraith, Douglas Gavin   Imperial Coll. London
Pansiot, Julien   Imperial Coll.
Ballantyne, James   Imperial Coll.
Valibeik, Salman   imperial Coll.
Elsaify, Ahmed   Imperial Coll. London
Yang, Guang-Zhong   Imperial Coll. London

11:50-12:10   WeIIT7.4

Transferring Embodied Concepts between Perceptually Heterogeneous Robots, pp. 4650-4656.

Kira, Zsolt   Georgia Inst. of Tech.

12:10-12:30   WeIIT7.5

Preference Model Assisted Activity Recognition in a Smart Home Environment, pp. 4657-4662.

Chen, Yi-Han   National Taiwan Univ.
Lu, Ching-Hu   National Taiwan Univ.
Hsu, Kuo-Chung   National Taiwan Univ.
Fu, Li-Chen   National Taiwan Univ.

Yeh, Yu-Jung Industrial Tech. Res. Inst.
Kuo, Lun-Chia Industrial Tech. Res. Inst.

WeIIT8   Mills 2
Modeling and Design of Legged Robots (Regular Sessions)

Chair: Kassahun, Yohannes Univ. of Bremen
Co-Chair: Endo, Ken MIT

10:50-11:10   WeIIT8.1
Human Walking Model Predicts Joint Mechanics, Electromyography and Mechanical Economy, pp. 4663-4668.
Endo, Ken MIT
Herr, Hugh Massachusetts Inst. of Tech.

11:10-11:30   WeIIT8.2
Leg Mechanisms for Hydraulically Actuated Robots, pp. 4669-4675.
Yang, Yousheng Italian Inst. of Tech.
Semini, Claudio Italian Inst. of Tech.
Tsagarakis, Nikolaos Italian Inst. of Tech. (IIT)
Guglielmino, Emanuele Fondazione Istituto Italiano di Tecnologia
Caldwell, Darwin G. Italian Inst. of Tech.

11:30-11:50   WeIIT8.3
3D Limit Cycle Walking of Musculoskeletal Humanoid Robot with Flat Feet, pp. 4676-4681.
Narioka, Kenichi Osaka Univ.
Tsugawa, Shinpei Osaka Univ.
Hosoda, Koh Osaka Univ.

11:50-12:10   WeIIT8.4
Design of a Leg-Wheel Hybrid Mobile Platform, pp. 4682-4687. Attachment
Shen, Shuan-Yu National Taiwan Univ.
Li, Cheng Hsin National Taiwan Univ.
Cheng, Chih-Chung National Taiwan Univ.
Lu, Jau-ching National Taiwan Univ.
Wang, Shao-Fan National Taiwan Univ.
Lin, Pei-Chun National Taiwan Univ.

12:10-12:30   WeIIT8.5
Dynamic Motion Modelling for Legged Robots, pp. 4688-4694.
Edgington, Mark Univ. of Bremen
Kassahun, Yohannes Univ. of Bremen
Kirchner, Frank Univ. of Bremen

WeIIT9   Mills 3
Micro-Manipulation (Regular Sessions)

Chair: Arai, Tatsuo Osaka Univ.
Co-Chair: Maruyama, Hisataka Tohoku Univ.

10:50-11:10   WeIIT9.1
Local Stiffness Measurements of C. Elegans by Buckling Nanoprobes Inside an Environmental SEM, pp. 4695-4700.
Nakajima, Masahiro Nagoya Univ.
Ahmad, Mohd Ridzuan Nagoya Univ.
Kojima, Seiji Nagoya Univ.
Homma, Michio Nagoya Univ.
Fukuda, Toshio Nagoya Univ.

11:10-11:30   WeIIT9.2
Penetration Force Measurement and Control in Robotic Cell Microinjection, pp. 4701-4706.
Xie, Yu City Univ. of Hong Kong
Sun, Dong City Univ. of Hong Kong
Liu, Chong City Univ. of Hong Kong

11:30-11:50   WeIIT9.3
Development of a Micro Mobile Robot in the Abdominal Cavity, pp. 4707-4711.
Ohno, Satoshi Chiba Univ.
Tachikawa, Junichi Chiba Univ.
Yu, Wenwei Chiba Univ.

11:50-12:10   WeIIT9.4
Self-Controlled Cell Selection and Loading System for Microfluidic Systems, pp. 4712-4717.
Uvet, Huseyin Osaka Univ.
Hasegawa, Akiyuki Osaka Univ.
Ohara, Kenichi Osaka Univ.
Takubo, Tomohito Osaka Univ.
Mae, Yasushi Osaka Univ.
Arai, Tatsuo Osaka Univ.

12:10-12:30   WeIIT9.5
Size-Dependent Microparticle Filtration Using Magnetically Driven Microtool for Producing Gel-Microtool, pp. 4718-4723.
Chapurlat, Benoît Tohoku Univ.
Maruyama, Hisataka Tohoku Univ.

Yamanishi, Yoko	Tohoku Univ.
Kotani, Kyosuke	Tohoku Univ.
Arai, Fumihito	Tohoku Univ.

WeIIT10	Mills 4
Object Shape Recognition (Regular Sessions)	

| Chair: Devereux, David | The Univ. of Manchester |
| Co-Chair: Aloimonos, Yiannis | Univ. of Maryland |

| 10:50-11:10 | WeIIT10.1 |

Novelty Detection and 3D Shape Retrieval Based on Gaussian Mixture Models for Autonomous Surveillance Robotics, pp. 4724-4730.

Núńez Trujillo, Pedro	Univ. de Extremadura
Drews Jr, Paulo	Federal Univ. of Minas Gerais
Rocha, Rui	Inst. of Systems and Robotics - Univ. of Coimbra
Campos, Mario F. Montenegro	Federal Univ. of Minas Gerais
Dias, Jorge	Univ. of Coimbra

| 11:10-11:30 | WeIIT10.2 |

Real-Time Shape Retrieval for Robotics Using Skip Tri-Grams, pp. 4731-4738.

Yi, Li	Univ. of Maryland
Bitsakos, Konstantinos	Univ. of Maryland, Coll. Park
Aloimonos, Yiannis	Univ. of Maryland
Fermüller, Cornelia	Univ. of Maryland

| 11:30-11:50 | WeIIT10.3 |

Robust On-Line Model-Based Object Detection from Range Images, pp. 4739-4744.

Steder, Bastian	Univ. of Freiburg
Grisetti, Giorgio	Unviersität Freiburg
Van Loock, Mark	Toyota Motor Europe NV/SA
Burgard, Wolfram	Univ. of Freiburg

| 11:50-12:10 | WeIIT10.4 |

Determining an Object's Shape with a Blind Tactile Manipulator, pp. 4745-4750.

Devereux, David	The Univ. of Manchester
Nutter, Paul	The Univ. of Manchester
Richardson, Robert	Univ. of Leeds

| 12:10-12:30 | WeIIT10.5 |

Interactive Learning of Visually Symmetric Objects, pp. 4751-4756.

| Li, Wai Ho | Monash Univ. |
| Kleeman, Lindsay | Monash Univ. |

WeIIT11	Mills 5
Place and Object Recognition (Regular Sessions)	

| Chair: Rehg, James | Georgia Inst. of Tech. |
| Co-Chair: Ye, Cang | Univ. of Arkansas at Little Rock |

| 10:50-11:10 | WeIIT11.1 |

Self-Location Recognition Using Azimuth Invariant Features and Wearable Sensors, pp. 4757-4762. Attachment

| Iwai, Yoshio | Osaka Univ. |
| Katahira, Takayuki | Osaka Univ. |

| 11:10-11:30 | WeIIT11.2 |

Visual Place Categorization: Problem, Dataset, and Algorithm, pp. 4763-4770. Attachment

Wu, Jianxin	Georgia Inst. of Tech.
Christensen, Henrik Iskov	Georgia Inst. of Tech.
Rehg, James	Georgia Inst. of Tech.

| 11:30-11:50 | WeIIT11.3 |

Non-Cubic Occupied Voxel Lists for Robot Maps, pp. 4771-4776.

| Ryde, Julian | CSIRO |
| Bruenig, Michael | CSIRO ICT Centre |

| 11:50-12:10 | WeIIT11.4 |

Probabilistic Categorization of Kitchen Objects in Table Settings with a Composite Sensor, pp. 4777-4784.

Marton, Zoltan-Csaba	Tech. Univ. Muenchen
Rusu, Radu Bogdan	Tech. Univ. Muenchen
Jain, Dominik	TU Muenchen
Klank, Ulrich	Tech. Univ. München
Beetz, Michael	Tech. Univ. München

| 12:10-12:30 | WeIIT11.5 |

Using Structured UKR Manifolds for Motion Classification and Segmentation, pp. 4785-4790.

Steffen, Jan	Bielefeld Univ.
Pardowitz, Michael	Univ. Bielefeld
Ritter, Helge Joachim	Bielefeld Univ.

WeIIT12	**Mills 6**
Distributed Robotics: Formation and Task Allocation (Regular Sessions)	

Chair: Weinberg, Jerry	Southern Illinois Univ. Edwardsville
Co-Chair: Hooper, Daylond	Air Force Inst. of Tech.

10:50-11:10 WeIIT12.1

A Distributed Boundary Detection Algorithm for Multi-Robot Systems, pp. 4791-4798.

McLurkin, James	Rice Univ.
Demaine, Erik	MIT

11:10-11:30 WeIIT12.2

Dynamic Coalition Formation under Uncertainty, pp. 4799-4804.

Hooper, Daylond	Air Force Inst. of Tech.
Peterson, Gilbert	Air Force Inst. of Tech.
Borghetti, Brett	Air Force Inst. of Tech.

11:30-11:50 WeIIT12.3

Fault-Tolerant Formations of Mobile Robots, pp. 4805-4810.

Mead, Ross	Univ. of Southern California
Long, Robert	Southern Illinois Univ. at Edwardsville
Weinberg, Jerry	Southern Illinois Univ. Edwardsville

11:50-12:10 WeIIT12.4

Negotiation with Reaction Functions for Solving Complex Task Allocation Problems, pp. 4811-4816.

Zheng, Xiaoming	Univ. of Southern California
Koenig, Sven	Univ. of Southern California

12:10-12:30 WeIIT12.5

CoMutaR: A Framework for Multi-Robot Coordination and Task Allocation, pp. 4817-4824.

Shiroma, Pedro	Univ. Federal de Minas Gerais
Campos, Mario F. Montenegro	Federal Univ. of Minas Gerais

WeIIT13	**Mills 7**
Multi-Robot Formation Control (Regular Sessions)	

Chair: Mostofi, Yasamin	Univ. of New Mexico
Co-Chair: Sheng, Weihua	Oklahoma State Univ.

10:50-11:10 WeIIT13.1

Leader-Following Formation Control Based on Pursuit Strategies, pp. 4825-4830.

Ding, Wei	Zhejiang Univ.
Yan, Gangfeng	Zhejiang Univ.
Lin, Zhiyun	Zhejiang Univ.
Lan, Ying	Zhejiang Univ.

11:10-11:30 WeIIT13.2

Discrete Event Systems Based Formation Control Framework to Coordinate Multiple Nonholonomic Mobile Robots, pp. 4831-4836.
Attachment

Gamage, Gayan	Memorial Univ. of Newfoundland
Mann, George K. I.	Memorial Univ. of Newfoundland
Gosine, Raymond G.	Memorial Univ. of Newfoundland

11:30-11:50 WeIIT13.3

Decision-Theoretic Robot Guidance for Active Cooperative Perception, pp. 4837-4842.

Pahliani, Abdolkarim	Inst. Superior Técnico - Inst. for Systems and Robotics
Spaan, Matthijs	Inst. Superior Técnico - Inst. for Systems and Robotics
Lima, Pedro	Inst. Superior Técnico - Inst. for Systems and Robotics

11:50-12:10 WeIIT13.4

Adaptive Flocking Control for Dynamic Target Tracking in Mobile Sensor Networks, pp. 4843-4848.

La, Hung	Oklahoma State Univ.
Sheng, Weihua	Oklahoma State Univ.

12:10-12:30 WeIIT13.5

Characterization and Modeling of Wireless Channels for Networked Robotic and Control Systems -- a Comprehensive Overview, pp. 4849-4854.

Mostofi, Yasamin	Univ. of New Mexico
Gonzalez-Ruiz, Alejandro	UNM
Ghaffarkhah, Alireza	Univ. of New Mexico
Li, Ding	UNM

WeIIT14	**Mills 8**
Robotics Mobility (Invited Sessions)	

Chair: Takahashi, Satoru	Kagawa Univ.
Co-Chair: Wada, Takahiro	Kagawa Univ.

10:50-11:10 WeIIT14.1

Mechanism and Control of a 4WD Robotic Platform for Omnidirectional Wheelchairs (I), pp. 4855-4862. Attachment

Wada, Masayoshi	Saitama Inst. of Tech.

11:10-11:30   WeIIT14.2

A Stabilization Control of Two Wheels Driven Wheelchair (I), pp. 4863-4868.
    Nakamura, Akihiro   Keio Univ.
    Murakami, Toshiyuki   Keio Univ.

11:30-11:50   WeIIT14.3

Motion Stabilization Using Laser Distance Sensor for Biped Robots with Flexible Joint (I), pp. 4869-4874.
    Oda, Naoki   Chitose Inst. of Science and Tech.
    Ito, Masanori   Chitose Inst. of Science and Tech.

11:50-12:10   WeIIT14.4

Segmentation and Analysis of Console Operation Using Self-Organizing Map with Cluster Growing Method (I), pp. 4875-4880.
    Suzuki, Satoshi   Tokyo Denki Univ.
    Harashima, Fumio   Tokyo Denki Univ.

12:10-12:30   WeIIT14.5

A Deceleration Control Method of Automobile for Collision Avoidance Based on Driver's Perceptual Risk (I), pp. 4881-4886.
    Wada, Takahiro   Kagawa Univ.
    Doi, Shun'ichi   Kagawa Univ.
    Hiraoka, Shoji   Kagawa Univ.

WeIIT15   Sterling 6
Path Planning with Adaptation (Regular Sessions)

    Chair: Simmons, Reid   Carnegie Mellon Univ.
    Co-Chair: van den Berg, Jur   Univ. of North Carolina at Chapel Hill

10:50-11:10   WeIIT15.1

A Hybrid Receding Horizon Control Method for Path Planning in Uncertain Environments, pp. 4887-4892.
    Xu, Bin   Virginia Tech.
    Kurdila, Andrew   Virginia Tech.
    Stilwell, Daniel   Virginia Tech.

11:10-11:30   WeIIT15.2

FAHR: Focused a* Heuristic Recomputation, pp. 4893-4898.
    McNaughton, Matthew   Carnegie Mellon Univ.
    Urmson, Chris   Carnegie Mellon Univ.

11:30-11:50   WeIIT15.3

Intelligent Pursuit & Evasion in an Unknown Environment, pp. 4899-4906. Attachment
    Annas, Jonathan   Univ. of North Carolina at Charlotte
    Xiao, Jing   UNC-Charlotte

11:50-12:10   WeIIT15.4

A Topological Approach of Path Planning for Autonomous Robot Navigation in Dynamic Environments, pp. 4907-4912.
    Thomas Abraham, Aswin   National Univ. of Singapore
    Ge, Shuzhi Sam   National Univ. of Singapore
    Tao, Pey Yuen   National Univ. of Singapore

12:10-12:30   WeIIT15.5

Variable Sized Grid Cells for Rapid Replanning in Dynamic Environments, pp. 4913-4918.
    Kirby, Rachel   Carnegie Mellon Univ.
    Simmons, Reid   Carnegie Mellon Univ.
    Forlizzi, Jodi   Carnegie Mellon Univ.

WeIIT16   Regency D
Topological SLAM and SLAM Applications (Regular Sessions)

    Chair: Choset, Howie   Carnegie Mellon Univ.
    Co-Chair: Andrade-Cetto, Juan   CSIC-UPC

10:50-11:10   WeIIT16.1

Reduced State Representation in Delayed-State SLAM, pp. 4919-4924. Attachment
    Ila, Viorela   UPC-CSIC
    Porta, Josep M   UPC-CSIC
    Andrade-Cetto, Juan   CSIC-UPC

11:10-11:30   WeIIT16.2

Trajectory-Oriented EKF-SLAM Using the Fourier-Mellin Transform Applied to Microwave Radar Images, pp. 4925-4930.
    Gérossier, Franck   LASMEA
    Checchin, Paul   LASMEA
    Blanc, Christophe   LASMEA
    Chapuis, Roland   LASMEA/FR-TIMS
    Trassoudaine, Laurent   Univ. Blaise Pascal

11:30-11:50   WeIIT16.3

Solution to a Door Crossing Problem for an Autonomous Wheelchair, pp. 4931-4936.
    Auat Cheein, Fernando   Univ. Nacional de San Juan
    De La Cruz, Celso   Univ. Federal do Espírito Santo
    Carelli, Ricardo   Univ. Nacional de San Juan
    Bastos-Filho, Teodiano   Federal Univ. of Espirito Santo

11:50-12:10   WeIIT16.4

Topological SLAM Using Neighbourhood Information of Places, pp. 4937-4942.

Werner, Felix	Queensland Univ. of Tech.
Maire, Frederic	Queensland Univ. of Tech.
Sitte, Joachim	Queensland Univ. of Tech.
Choset, Howie	Carnegie Mellon Univ.
Tully, Stephen	Carnegie Mellon Univ.
Kantor, George	Carnegie Mellon Univ.

12:10-12:30   WeIIT16.5

A Multi-Hypothesis Topological SLAM Approach for Loop Closing on Edge-Ordered Graphs, pp. 4943-4948.

Tully, Stephen	Carnegie Mellon Univ.
Kantor, George	Carnegie Mellon Univ.
Choset, Howie	Carnegie Mellon Univ.
Werner, Felix	Queensland Univ. of Tech.

WeIIIT1   Grand A

Humanoid Robot II (Regular Sessions)

Chair: Caldwell, Darwin G.	Italian Inst. of Tech.
Co-Chair: Yoshikai, Tomoaki	The Univ. of Tokyo

14:00-14:20   WeIIIT1.1

SURALP: A New Full-Body Humanoid Robot Platform, pp. 4949-4954.

Erbatur, Kemalettin	Sabanci Univ.
Seven, Utku	Sabanci Univ.
Taskiran, Evrim	Sabanci Univ.
Koca, Ozer	Sabanci Univ.
Yilmaz, Metin	Sabanci Univ.
Unel, Mustafa	Sabanci Univ.
Kiziltas, Gullu	Sabanci Univ.
Sabanovic, Asif	Sabanci Univ.
Onat, Ahmet	Sabanci Univ.

14:20-14:40   WeIIIT1.2

Three DOF Hybrid Mechanism for Humanoid Robotic Application: Modeling, Design and Realization, pp. 4955-4961. Attachment

Alfayad, Samer	LISV,BIA
Ben Ouezdou, Fathi	Univ. of Versailles-Saint-Quentin
Namoun, Faycal	BIA
Bruneau, Olivier	UVSQ / LISV
Henaff, Patrick	Univ. of Versailles St Quentin

14:40-15:00   WeIIIT1.3

The Mechanical Design of the New Lower Body for the Child Humanoid Robot 'iCub', pp. 4962-4968. Attachment

Tsagarakis, Nikolaos	Italian Inst. of Tech. (IIT)
Vanderborght, Bram	Vrije Univ. Brussel
Laffranchi, Matteo	Italian Inst. of Tech.
Caldwell, Darwin G.	Italian Inst. of Tech.

15:00-15:20   WeIIIT1.4

New Three DOF Ankle Mechanism for Humanoid Robotic Application: Modeling, Design and Realization, pp. 4969-4976. Attachment

Alfayad, Samer	LISV,BIA
Ben Ouezdou, Fathi	Univ. of Versailles-Saint-Quentin
Namoun, Faycal	BIA

15:20-15:40   WeIIIT1.5

Design and Development of a Humanoid with Soft 3D-Deformable Sensor Flesh and Automatic Recoverable Mechanical Overload Protection Mechanism, pp. 4977-4983.

Yoshikai, Tomoaki	The Univ. of Tokyo
Hayashi, Marika	The Univ. of Tokyo
Kadowaki, Asuka	The Univ. of Tokyo
Goto, Takefumi	The Univ. of Tokyo
Inaba, Masayuki	The Univ. of Tokyo

WeIIIT2   Grand B

Human Robot Interaction V (Regular Sessions)

Chair: Steil, Jochen J.	Bielefeld Univ.
Co-Chair: Mühlig, Manuel	CoR-Lab. Bielefeld, Honda Res. Inst. Europe

14:00-14:20   WeIIIT2.1

Human Robot Interaction: Studies on Laban Human Movement Analysis and Dynamic Background Segmentation, pp. 4984-4989.

Luis, Santos	Univ. of Coimbra
Prado, José Augusto	Univ. of Coimbra
Dias, Jorge	Univ. of Coimbra

14:20-14:40   WeIIIT2.2

Co-Creation of Human-Robot Interaction Rules through Response Prediction and Habituation/Dishabituation, pp. 4990-4995.

Kuriyama, Takatsugu	The Univ. of Tokyo
Kuniyoshi, Yasuo	The Univ. of Tokyo

14:40-15:00 WeIIIT2.3

Automatic Selection of Task Spaces for Imitation Learning, pp. 4996-5002.

Mühlig, Manuel CoR-Lab. Bielefeld, Honda Res. Inst. Europe
Gienger, Michael Honda Res. Inst. Europe
Steil, Jochen J. Bielefeld Univ.
Goerick, Christian Honda Res. Inst. Europe GmbH

15:00-15:20 WeIIIT2.4

Motion Modification Method to Control Affective Nuances for Robots, pp. 5003-5008.

Nakagawa, Kayako ATR
Shinozawa, Kazuhiko Advanced Telecommunications Res. Inst.
Ishiguro, Hiroshi Osaka Univ.
Akimoto, Takaaki ATR
Hagita, Norihiro ATR

15:20-15:40 WeIIIT2.5

Expressive Facial Speech Synthesis on a Robotic Platform, pp. 5009-5014.

Li, Xingyan Univ. of Auckland
MacDonald, Bruce Univ. of Auckland
Watson, Catherine Univ. of Auckland

WeIIIT3 Grand C
Biological Inspired Robotics (Regular Sessions)

Chair: Quinn, Roger, D. Case Western Res. Univ.
Co-Chair: Vaughan, Richard Simon Fraser Univ.

14:00-14:20 WeIIIT3.1

Analysis of the Terrestrial Locomotion of a Salamander Robot, pp. 5015-5020.

Karakasiliotis, Konstantinos EPFL
Ijspeert, Auke EPFL

14:20-14:40 WeIIIT3.2

Crawling Locomotion of Modular Climbing Caterpillar Robot with Changing Kinematic Chain, pp. 5021-5026.

Wang, Wei Beihang Univ.
Zhang, Houxiang Computer Science
Zhang, Jianwei Univ. of Hamburg

14:40-15:00 WeIIIT3.3

Optical Flow on a Flapping Wing Robot, pp. 5027-5032.

Garcia Bermudez, Fernando Univ. of California, Berkeley
Fearing, Ronald Univ. of California at Berkeley

15:00-15:20 WeIIIT3.4

Robot Task Switching under Diminishing Returns, pp. 5033-5038.

Wawerla, Jens Simon Fraser Univ.
Vaughan, Richard Simon Fraser Univ.

15:20-15:40 WeIIIT3.5

An Insect-Inspired Robot for Lunar In-Situ Resource Utilization, pp. 5039-5044.

Dunker, Philip Case Western Res. Univ.
Lewinger, William Case Western Res. Univ.
Hunt, Alexander Jacob Case Western Res. Univ.
Quinn, Roger, D. Case Western Res. Univ.

WeIIIT4 Grand F
Mobile Robot Control I (Regular Sessions)

Chair: Robuffo Giordano, Paolo Max Planck Inst. for Biological Cybernetics
Co-Chair: De Luca, Alessandro Univ. di Roma La Sapienza

14:00-14:20 WeIIIT4.1

Lion and Man Game in the Presence of a Circular Obstacle, pp. 5045-5050.

Karnad, Nikhil Univ. of Minnesota, Twin-Cities
Isler, Volkan Univ. of Minnesota

14:20-14:40 WeIIIT4.2

Control Design and Experimental Evaluation of the 2D CyberWalk Platform, pp. 5051-5058. Attachment

De Luca, Alessandro Univ. di Roma "La Sapienza"
Mattone, Raffaella Univ. di Roma
Robuffo Giordano, Paolo Max Planck Inst. for Biological Cybernetics
Buelthoff, Heinrich H. Max Planck Inst. for Biol. Cybernetics

14:40-15:00 WeIIIT4.3

Target Tracking Control of a Mobile Robot Using a Brain Limbic System Based Control Strategy, pp. 5059-5064.

Langari, Reza Texas A&M Univ.
Kim, Changwon Texas A&M Univ.

15:00-15:20 WeIIIT4.4

Decentralized Adaptive Control of a Class of Discrete-Time Multi-Agent Systems for Hidden Leader Following Problem, pp. 5065-5070.

Ge, Shuzhi Sam National Univ. of Singapore
Yang, Chenguang National Univ. of Singapore

| Li, Yanan | National Univ. of Singapore |
| Lee, Tong Heng | National Univ. of Singapore |

| 15:20-15:40 | WeIIIT4.5 |

Synthesis of Output Feedback Control for Motion Planning Based on LTL Specifications, pp. 5071-5075.

Wu, Min	Zhejiang Univ.
Yan, Gangfeng	Zhejiang Univ.
Lin, Zhiyun	Zhejiang Univ.
Lan, Ying	Zhejiang Univ.

| **WeIIIT5** | Grand G |
| **Sensor Path Planning** (Regular Sessions) | |

| Chair: Oriolo, Giuseppe | Univ. di Roma |
| Co-Chair: McLauchlan, Lifford | Texas A&M Univ. |

| 14:00-14:20 | WeIIIT5.1 |

An Exploration Method for General Robotic Systems Equipped with Multiple Sensors, pp. 5076-5082. Attachment

Freda, Luigi	Univ. di Roma La Sapienza
Oriolo, Giuseppe	Univ. di Roma "La Sapienza"
Vecchioli, Francesco	Univ. di Roma "La Sapienza"

| 14:20-14:40 | WeIIIT5.2 |

Planning Collision-Free and Occlusion-Free Paths for Industrial Manipulators with Eye-To-Hand Configuration, pp. 5083-5088.

Leonard, Simon	The Univ. of British Columbia
Croft, Elizabeth	Univ. of British Columbia
Little, James J.	UBC

| 14:40-15:00 | WeIIIT5.3 |

Robust Sensor Planning for a Partially Known Moving Target: Application to a Dynamic X-Ray Imaging System, pp. 5089-5094.

| Yamokoski, John | Univ. of Florida |
| Banks, Scott A. | Univ. of Florida |

| 15:00-15:20 | WeIIIT5.4 |

Multipath-Based Relocation Schemes Considering Balanced Assignment for Hopping Sensors, pp. 5095-5100.

| Kim, Moonseong | Michigan State Univ. |
| Mutka, Matt | Michigan State Uinversity |

| 15:20-15:40 | WeIIIT5.5 |

Dynamic Path Planning of Mobile Robot Mounted Range Sensors and Single CCD Camera, pp. 5101-5106.

| Takahashi, Satoru | Kagawa Univ. |

| **WeIIIT6** | Grand H |
| **Telerobotics - Haptics** (Regular Sessions) | |

| Chair: Niemeyer, Gunter | Stanford Univ. |
| Co-Chair: Wahl, Friedrich M. | Tech. Univ. of Braunschweig |

| 14:00-14:20 | WeIIIT6.1 |

1kHz Is Not Enough - How to Achieve Higher Update Rates with a Bilateral Teleoperation System Based on Commercial Hardware, pp. 5107-5114.

Kubus, Daniel	Tech. Univ. of Braunschweig
Weidauer, Ingo	Tech. Univ. Braunschweig
Wahl, Friedrich M.	Tech. Univ. of Braunschweig

| 14:20-14:40 | WeIIIT6.2 |

Dual-Master Teleoperation Control of Kinematically Redundant Slave Manipulators, pp. 5115-5120.

| Malysz, Pawel | McMaster Univ. |
| Sirouspour, Shahin | McMaster Univ. |

| 14:40-15:00 | WeIIIT6.3 |

Open-Loop Bilateral Teleoperation for Stable Force Tracking, pp. 5121-5126.

| Shull, Pete | Stanford Univ. |
| Niemeyer, Gunter | Willow Garage and Stanford Univ. |

| 15:00-15:20 | WeIIIT6.4 |

Experimental Studies of a Teleoperator System with Projection-Based Force Reflection Algorithms, pp. 5127-5132.

Polushin, Ilia G.	The Univ. of Western Ontario
Liu, Peter X.	Carleton Univ.
Lung, Chung-Horng	Carleton Univ.

| 15:20-15:40 | WeIIIT6.5 |

Scaling and Eliminating Non-Contact Forces and Torques to Improve Bilateral Teleoperation, pp. 5133-5139.

| Kubus, Daniel | Tech. Univ. of Braunschweig |
| Wahl, Friedrich M. | Tech. Univ. of Braunschweig |

| **WeIIIT7** | Mills 1 |
| **Design of Robotic Mechanisms I** (Regular Sessions) | |

| Chair: Naish, Michael David | Univ. of Western Ontario |
| Co-Chair: Yu, Yong | Kagoshima Univ. |

14:00-14:20	WeIIIT7.1

Spring-Clutch: A Safe Torque Limiter Based on a Spring and CAM Mechanism with the Ability to Reinitialize Its Position, pp. 5140-5145. Attachment

Lee, Woosub	Korea Inst. of Science and Tech.
Choi, Junho	Korea Inst. of Science & Tech.
Kang, Sungchul	Korea Inst. of Science & Tech.

14:20-14:40	WeIIIT7.2

Design of a Novel 3 Degree of Freedom Robotic Joint, pp. 5146-5152.

Guckert, Mark Lyle	Univ. of Western Ontario
Naish, Michael D	Univ. of Western Ontario

14:40-15:00	WeIIIT7.3

Research of 3-DOF Active Rotational Ball Joint, pp. 5153-5158.

Yu, Yong	Kagoshima Univ.
Narida, Yoshitaka	Kagoshima Univ.
Harada, Yoshinori	Tech. Xross Kyushi Corp.
Nakao, Toshimi	Tech. Xross Kyushi Corp.

15:00-15:20	WeIIIT7.4

Design Optimization of a Delta-Like Parallel Robot through Global Stiffness Performance Evaluation, pp. 5159-5166.

Courteille, Eric	INSA RENNES
Deblaise, Dominique	INSA RENNES
Maurine, Patrick	INSA of Rennes

15:20-15:40	WeIIIT7.5

Kinematic Analysis and Design of a New 3T1R 4-DOF Parallel Mechanism with Rotational Pitch Motion, pp. 5167-5172. Attachment

Kim, Sung Mok	Korea Univ. korea
Kim, Whee Kuk	Korea Univ.
Yi, Byung-Ju	Hanayang Univ.

WeIIIT8	Mills 2

Modeling the Environment (Regular Sessions)

Chair: Andert, Franz	German Aerospace Center (DLR)
Co-Chair: Nagai, Yukie	Bielefeld Univ.

14:00-14:20	WeIIIT8.1

Creation of Geo-Referenced Mosaics from MAV Video and Telemetry Using Constrained Optimization and Bundle Adjustment, pp. 5173-5178.

Heiner, Benjamin	Brigham Young Univ.
Taylor, Clark N.	Brigham Young Univ.

14:20-14:40	WeIIIT8.2

Digital Elevation Map Reconstruction for Port-Based Dynamic Simulation of Contacts on Irregular Surfaces, pp. 5179-5184. Attachment

Wassink, Martin	Univ. of Twente
Carloni, Raffaella	Univ. of Twente
Poulakis, Pantelis	European Space Agency
Stramigioli, Stefano	Univ. of Twente

14:40-15:00	WeIIIT8.3

An Inexpensive 3D Scanner for Indoor Mobile Robots, pp. 5185-5190.

Ryde, Julian	CSIRO

15:00-15:20	WeIIIT8.4

Drawing Stereo Disparity Images into Occupancy Grids: Measurement Model and Fast Implementation, pp. 5191-5197.

Andert, Franz	German Aerospace Center (DLR)

15:20-15:40	WeIIIT8.5

Stability and Sensitivity of Bottom-Up Visual Attention for Dynamic Scene Analysis, pp. 5198-5203.

Nagai, Yukie	Bielefeld Univ.

WeIIIT9	Mills 3

Computer Vision Algorithms (Regular Sessions)

Chair: Mouaddib, El Mustapha	Univ. of Picardie Jules Verne
Co-Chair: Kagami, Shingo	Tohoku Univ.

14:00-14:20	WeIIIT9.1

Dynamical Models for Position Measurement with Global Shutter and Rolling Shutter Cameras, pp. 5204-5209.

Laroche, Edouard	LSIIT
Kagami, Shingo	Tohoku Univ.

14:20-14:40	WeIIIT9.2

What Can Prediction Bring to Image-Based Visual Servoing ?, pp. 5210-5215.

Allibert, Guillaume	Inst. PRISME
Courtial, Estelle	Lab. of Vision and Robotic

14:40-15:00	WeIIIT9.3

Self-Location from Monocular Uncalibrated Vision Using Reference Omniviews, pp. 5216-5221.

Puig, L.	Univ. de Zaragoza
Guerrero, J.J.	Univ. de Zaragoza

15:00-15:20	WeIIIT9.4

Obstacle Classification and Location by Using a Mobile Omnidirectional Camera Based on Tracked Floor Boundary Points, pp. 5222-5227.

| Tasaki, Tsuyoshi | Toshiba Corp. |
| Ozaki, Fumio | Toshiba Corp. |

15:20-15:40	WeIIIT9.5

3D Model Based Pose Estimation for Omnidirectional Stereovision, pp. 5228-5233. Attachment

Caron, Guillaume	Univ. of Picardie Jules Verne
Marchand, Eric	Univ. de Rennes 1
Mouaddib, El Mustapha	Univ. of Picardie Jules Verne

WeIIIT10	Mills 4

Manipulation (Regular Sessions)

| Chair: Stilman, Mike | Georgia Tech. |
| Co-Chair: Heintz, Fredrik | Linköping Univ. |

14:00-14:20	WeIIIT10.1

A Design and Analysis Tool for Underactuated Compliant Hands, pp. 5234-5239.

| Ciocarlie, Matei | Columbia Univ. |
| Allen, Peter | Columbia Univ. |

14:20-14:40	WeIIIT10.2

Associating and Reshaping of Whole Body Motions for Object Manipulation, pp. 5240-5247.

Kunori, Hirotoshi	The Univ. of Tokyo
Lee, Dongheui	Univ. of Tokyo
Nakamura, Yoshihiko	Univ. of Tokyo

14:40-15:00	WeIIIT10.3

Robot Jenga: Autonomous and Strategic Block Extraction, pp. 5248-5253. Attachment

Wang, Jiuguang	Georgia Inst. of Tech.
Rogers, Philip	Georgia Inst. of Tech.
Parker, Lonnie	Georgia Inst. of Tech.
Brooks, Douglas	Georgia Inst. of Tech.
Stilman, Mike	Georgia Tech.

15:00-15:20	WeIIIT10.4

A Stream-Based Hierarchical Anchoring Framework, pp. 5254-5260.

Heintz, Fredrik	Linköping Univ.
Kvarnström, Jonas	Linköping Univ.
Doherty, Patrick	AIICS - Univ. of Linkopings

15:20-15:40	WeIIIT10.5

Improved and Modified Geometric Formulation of POE Based Kinematic Calibration of Serial Robots, pp. 5261-5266.

Lou, Yunjiang	Shenzhen Graduate School, Harbin Inst. of Tech.
Chen, Tieniu	Harbin Inst. of Tech. Shenzhen Graduate School
Wu, Yuanqing	Shanghai Jiaotong Univ.
Li, Zhibin	Shenzhen Pol. Coll.
Jiang, Shilong	Googol Tech. Limited

WeIIIT11	Mills 5

Modular Robots (Regular Sessions)

| Chair: Goldstein, Seth Copen | Carnegie Mellon Univ. |
| Co-Chair: Lyder, Andreas | Univ. of Southern Denmark |

14:00-14:20	WeIIIT11.1

A Tale of Two Planners: Modular Robotic Planning with LDP, pp. 5267-5274.

De Rosa, Michael	Carnegie Mellon Univ.
Goldstein, Seth Copen	Carnegie Mellon Univ.
Lee, Peter	Carnegie Mellon Univ.
Pillai, Padmanabhan	Intel Res. Pittsburgh
Campbell, Jason	Intel Res.

14:20-14:40	WeIIIT11.2

Representation and Shape Estimation of Odin, a Parallel Under-Actuated Modular Robot, pp. 5275-5280.

Lyder, Andreas	Univ. of Southern Denmark
Petersen, Henrik Gordon	Univ. of Southern Denmark
Stoy, Kasper	Univ. of Southern Denmark

14:40-15:00	WeIIIT11.3

Morphology Detection for Magnetically Self-Assembled Modular Robots, pp. 5281-5286. Attachment

Nagy, Zoltan	ETH Zurich
Miyashita, Shuhei	Univ. of Zurich
Muntwyler, Simon	ETH Zurich
Cherukuri, Ashish K.	ETH Zurich
Abbott, Jake	Univ. of Utah
Pfeifer, Rolf	Univ. of Zurich
Nelson, Bradley J.	ETH Zurich

15:00-15:20	WeIIIT11.4

Robust and Reversible Self-Reconfiguration, pp. 5287-5294. Attachment

Schultz, Ulrik Pagh	Univ. of Southern Denmark
Bordignon, Mirko	Univ. of Southern Denmark
Stoy, Kasper	Univ. of Southern Denmark

15:20-15:40	WeIIIT11.5

Graph Signature for Self-Reconfiguration Planning of Modules with Symmetry, pp. 5295-5300.

Asadpour, Masoud	Univ. of Tehran
Zokaei Ashtiani, Mohammad Hassan	Univ. of Tehran
Sproewitz, Alexander	EPFL
Ijspeert, Auke	EPFL

WeIIIT12	Mills 6
Aerial Robotics: Visual Navigation (Regular Sessions)	

Chair: Liu, Yunhui	Chinese Univ. of Hong Kong
Co-Chair: Saxena, Ashutosh	Stanford Univ.

14:00-14:20	WeIIIT12.1

Dynamic Visual Servoing of a Small Scale Autonomous Helicopter in Uncalibrated Environments, pp. 5301-5306.

Fan, Caizhi	National Univ. of Defense Tech.
Baoquan, Song	Univ. of Toronto
Cai, Xuanping	The National Univ. of Defense Tech.
Liu, Yunhui	Chinese Univ. of Hong Kong

14:20-14:40	WeIIIT12.2

Autonomous Indoor Helicopter Flight Using a Single Onboard Camera, pp. 5307-5314. Attachment

Soundararaj, Sai Prashanth	Stanford Univ.
Sujeeth, Arvind	Stanford Univ.
Saxena, Ashutosh	Cornell Univ.

14:40-15:00	WeIIIT12.3

Visual Navigation of a Quadrotor Aerial Vehicle, pp. 5315-5320.

Courbon, Jonathan	CEA
Mezouar, Youcef	Blaise Pascal Univ.
Guenard, Nicolas	CEA
Martinet, Philippe	Blaise Pascal Univ.

15:00-15:20	WeIIIT12.4

Visual Servoing of an Autonomous Micro Air Vehicle for Ground Object Tracking, pp. 5321-5326. Attachment

Syaril, Azrad	Chiba Univ.
Kendoul, Farid	Chiba Univ.
Pebrianti, Dwi	Chiba Univ.
Nonami, Kenzo	Chiba Univ.

15:20-15:40	WeIIIT12.5

Multiple Target Geo-Location Using SIFT and Stereo Vision on Airborne Video Sequences, pp. 5327-5332.

DeSouza, Guilherme	Univ. of Missouri-Columbia
Han, Kyung min	U of missouri - columbia

WeIIIT13	Mills 7
Multi-Robot Manipulation (Regular Sessions)	

Chair: Esposito, Joel	US Naval Acad.
Co-Chair: Ota, Jun	The Univ. of Tokyo

14:00-14:20	WeIIIT13.1

Decentralized Cooperative Manipulation with a Swarm of Mobile Robots, pp. 5333-5338.

Esposito, Joel	US Naval Acad.

14:20-14:40	WeIIIT13.2

Development of a Direct Teaching System for a Cooperative Cell-Production Robot Considering Safety and Operability, pp. 5339-5344.

Jeong, Seonghee	National Inst. of Advanced Industrial Science and
Nakabo, Yoshihiro	National Insitute of
Ogure, Takuya	Advanced Industrial Science and Tech. (AIST)
Yamada, Yoji	Nagoya Univ.

14:40-15:00	WeIIIT13.3

Development of a Safety Module for Robots Sharing Workspace with Humans, pp. 5345-5349.

Nakabo, Yoshihiro	National Insitute of
Saito, Hajime	General Robotix, Inc.
Ogure, Takuya	Advanced Industrial Science and Tech. (AIST)
Jeong, Seonghee	National Inst. of Advanced Industrial Science and
Yamada, Yoji	Nagoya Univ.

15:00-15:20	WeIIIT13.4

Behavior Control Methodology for Circulating Robots in Flexible Batch Manufacturing Systems Experiencing Bottlenecks, pp. 5350-5356.
Attachment

Hoshino, Satoshi	Tokyo Inst. of Tech.
Seki, Hiroya	Tokyo Inst. of Tech.

Naka, Yuji	Tokyo Inst. of Tech.
Ota, Jun	The Univ. of Tokyo

15:20-15:40   WeIIIT13.5

Micro-To-Nano Optical Resolution in a Multirobot Nanobiocharacterization Station, pp. 5357-5362.

Otero Diaz, Jorge	Univ. of Barcelona
Puig, Manel	Univ. de Barcelona
Frigola, Manel	Tech. Univ. of Catalonia
Casals, Alicia	Tech. Univ. of Catalonia

WeIIIT14   Mills 8
Neural and Fuzzy Control (Regular Sessions)

Chair: Okuno, Hiroshi G.	Kyoto Univ.
Co-Chair: Lee, Ju-Jang	KAIST

14:00-14:20   WeIIIT14.1

Predicting the Individual Best Saddle Height of Bicycle Based on Electromyography and Fuzzy Inference, pp. 5363-5368.

Tokuyasu, Tatsushi	National Coll. of Tech.
Taniguchi, Hiroki	Oita National Coll. of Tech.
Matsumoto, Shimpei	Oita National Coll. of Tech.
Keichi, Ooba	Oita National Coll. of Tech.

14:20-14:40   WeIIIT14.2

Fuzzy Logic Controlled Landing of a Boeing 747, pp. 5369-5375.

McLauchlan, Lifford	Texas A&M Univ.

14:40-15:00   WeIIIT14.3

Modeling Tool-Body Assimilation Using Second-Order Recurrent Neural Network, pp. 5376-5381.

Nishide, Shun	Kyoto Univ.
Nakagawa, Tatsuhiro	NARA Inst. of SCIENCE and Tech. -Univ.
Ogata, Tetsuya	Kyoto Univ.
Tani, Jun	Riken
Takahashi, Toru	Kyoto Univ.
Okuno, Hiroshi G.	Kyoto Univ.

15:00-15:20   WeIIIT14.4

Multiple Incremental Fuzzy Neuro-Adaptive Control of Robot Manipulators, pp. 5382-5387.

Kim, Chang-Hyun	Korea Advanced Inst. of Science and Tech.
Seok, Joon-Hong	KAIST
Choi, Byoung-Suk	KAIST
Lee, Ju-Jang	KAIST

15:20-15:40   WeIIIT14.5

Phoneme Acquisition Model Based on Vowel Imitation Using Recurrent Neural Network, pp. 5388-5393.

Kanda, Hisashi	Informatics, Kyoto Univ.
Ogata, Tetsuya	Kyoto Univ.
Takahashi, Toru	Kyoto Univ.
Komatani, Kazunori	Kyoto Univ.
Okuno, Hiroshi G.	Kyoto Univ.

WeIIIT15   Sterling 6
Path Planning: Mobile Robots (Regular Sessions)

Chair: Huber, Manfred	Univ. of Texas at Arlington
Co-Chair: Whitty, Mark Albert	Univ. of New South Wales

14:00-14:20   WeIIIT15.1

Encoding User Motion Preferences in Harmonic Function Path Planning, pp. 5394-5400.

D'Silva, Giles	Univ. of Texas at Arlington
Huber, Manfred	Univ. of Texas at Arlington

14:20-14:40   WeIIIT15.2

Efficient Path Planning in Deformable Maps, pp. 5401-5406.

Whitty, Mark Albert	Univ. of New South Wales
Guivant, Jose	UNSW

14:40-15:00   WeIIIT15.3

A Bug-Inspired Algorithm for Efficient Anytime Path Planning, pp. 5407-5413.

Antich, Javier	Univ. of the Balearic Islands
Ortiz, Alberto	Univ. of the Balearic Islands
Minguez, Javier	Univ. of Zaragoza

15:00-15:20   WeIIIT15.4

A Coarse-To-Fine Approach for Fast Path Finding for Mobile Robots, pp. 5414-5419.

Lee, Jae-Yeong	Electronics and Telecommunications Res. Inst. (ETRI)
Yu, Wonpil	ETRI

15:20-15:40   WeIIIT15.5

Planning Motion in Point-Represented Contact Spaces Using Approximate Star-Shaped Decomposition, pp. 5420-5425.

Lien, Jyh-Ming	George Mason Univ.
Lu, Yanyan	George Mason Univ.

WeIIIT16 Regency D
Visual Servoing I (Regular Sessions)

Chair: Chaumette, Francois	INRIA Rennes-Bretagne Atlantique
Co-Chair: Martinet, Philippe	Blaise Pascal Univ.

14:00-14:20 WeIIIT16.1

3D Pose and Velocity Visual Tracking Based on Sequential Region of Interest Acquisition, pp. 5426-5431.

Dahmouche, Redwan	Univ. Blaise Pascal
Andreff, Nicolas	Univ. Blaise Pascal
Mezouar, Youcef	Blaise Pascal Univ.
Martinet, Philippe	Blaise Pascal Univ.

14:20-14:40 WeIIIT16.2

Coarsely Calibrated Visual Servoing of a Mobile Robot Using a Catadioptric Vision System, pp. 5432-5437. Attachment

Fomena Tatsambon, Romeo	Univ. de Rennes 1, IRISA
Yoon, Han	Univ. of Illinois at Urbana-Champaign
Cherubini, Andrea	INRIA-IRISA
Chaumette, Francois	INRIA Rennes-Bretagne Atlantique
Hutchinson, Seth	Univ. of Illinois

14:40-15:00 WeIIIT16.3

Colorimetry-Based Visual Servoing, pp. 5438-5443.

Collewet, Christophe	INRIA
Marchand, Eric	Univ. de Rennes 1

15:00-15:20 WeIIIT16.4

Image Based Visual Servoing Using Algebraic Curves Applied to Shape Alignment, pp. 5444-5449.

Yazicioglu, Ahmet Yasin	Sabanci Univ.
Calli, Berk	Sabanci Univ.
Unel, Mustafa	Sabanci Univ.

15:20-15:40 WeIIIT16.5

Visual Servoing from Robust Direct Color Image Registration, pp. 5450-5455. Attachment

Silveira, Geraldo	CTI
Malis, Ezio	INRIA

WeIVT1 Grand A
Humanoid Robot III (Regular Sessions)

Chair: Janssen, Herbert	Honda Res. Inst. Europe
Co-Chair: Fukui, Kotaro	Waseda Univ.

16:00-16:20 WeIVT1.1

Three Dimensional Tongue with Liquid Sealing Mechanism for Improving Resonance on an Anthropomorphic Talking Robot, pp. 5456-5462. Attachment

Fukui, Kotaro	Waseda Univ.
Ishikawa, Yuma	Waseda Univ.
Ohno, Keisuke	Waseda Univ.
Sakakibara, Nana	Waseda Univ.
Honda, Masaaki	Waseda Univ.
Takanishi, Atsuo	Waseda Univ.

16:20-16:40 WeIVT1.2

Real-Time Estimation Algorithm for the Center of Mass of Bipedal Robot with Flexible Inverted Pendulum Model, pp. 5463-5468.

Kwon, SangJoo	Korea Aerospace Univ.

16:40-17:00 WeIVT1.3

Vision Based Motion Control for a Humanoid Head, pp. 5469-5474. Attachment

Visser, Ludo C.	Univ. of Twente
Carloni, Raffaella	Univ. of Twente
Stramigioli, Stefano	Univ. of Twente

17:00-17:20 WeIVT1.4

Instant Prediction for Reactive Motions with Planning, pp. 5475-5480.

Sugiura, Hisashi	Honda Res. Inst. Europe
Janssen, Herbert	Honda Res. Inst. Europe
Goerick, Christian	Honda Res. Inst. Europe GmbH

17:20-17:40 WeIVT1.5

Experimental Study on Dynamic Reactionless Motions with DLR's Humanoid Robot Justin, pp. 5481-5486. Attachment

Wimboeck, Thomas	German Aerospace Center (DLR)
Nenchev, Dragomir	Tokyo City Univ.
Albu-Schäffer, Alin	DLR - German Aerospace Center
Hirzinger, Gerd	German Aerospace Center (DLR)

WeIVT2 Grand B
Human Robot Interaction VI (Regular Sessions)

Chair: Pantofaru, Caroline	Willow Garage, Inc.
Co-Chair: Suzuki, Tatsuya	Nagoya Univ.

16:00-16:20 WeIVT2.1

Nonlinear Decoupled Motion-Stiffness Control and Collision Detection/Reaction for the VSA-II Variable Stiffness Device, pp. 5487-5494.

De Luca, Alessandro — Univ. di Roma "La Sapienza"
Flacco, Fabrizio — Univ. of Rome "La Sapienza"
Bicchi, Antonio — Univ. of Pisa
Schiavi, Riccardo — Univ. of Pisa

16:20-16:40 WeIVT2.2

Influences on Proxemic Behaviors in Human-Robot Interaction, pp. 5495-5502.

Takayama, Leila — Willow Garage
Pantofaru, Caroline — Willow Garage, Inc.

16:40-17:00 WeIVT2.3

A DCT-Gaussian Classification Scheme for Human-Robot Interface, pp. 5503-5508.

Kota, Srinivas — Southern Illinois Univ.
Mace, Michael — Univ. of Bristol
Gupta, Lalit — Southern Illinois Univ.
Vaidyanathan, Ravi — Naval Postgraduate School

17:00-17:20 WeIVT2.4

Wiimote Robot Control Using Human Motion Models, pp. 5509-5515. Attachment

Smith, Claes Christian — Royal Inst. of Tech.
Christensen, Henrik Iskov — Georgia Inst. of Tech.

17:20-17:40 WeIVT2.5

Symbolic Modeling of Driving Behavior Based on Hierarchical Segmentation and Formal Grammar (I), pp. 5516-5521.

Nakano, Ato — Nagoya Univ.
Okuda, Hiroyuki — Nagoya Univ.
Suzuki, Tatsuya — Nagoya Univ.
Inagaki, Shinkichi — Nagoya Univ.
Hayakawa, Soichiro — Toyota Tech. Insititute

WeIVT3 — Grand C
Surgery Robots (Regular Sessions)

Chair: Lehman, Amy C. — Univ. of Nebraska-Lincoln
Co-Chair: Fujie, Masakatsu G. — Waseda Univ.

16:00-16:20 WeIVT3.1

Minimally Invasive Surgery Maneuver Recognition Based on Surgeon's Model, pp. 5522-5527.

Estebanez, Belen — Univ. de Málaga
Jimenez Ruiz, Gema — Univ. of Malaga
Muńoz, Victor — Univ. of Malaga
Garcia-Morales, Isabel — Univ. of Malaga, Spain
Bauzano, Enrique — Univ. of Malaga, Spain
Molina Pérez, Jaime — Univ. of Malaga

16:20-16:40 WeIVT3.2

Assemblable Three-Fingered Nine-Degree of Freedom Hand for Laparoscopic Surgery, pp. 5528-5533. Attachment

Oshima, Ritsuya — Tokyo Inst. of Tech.
Takayama, Toshio — Tokyo Inst. of Tech.
Omata, Toru — Tokyo Inst. of Tech.
Kojima, Kazuyuki — Tokyo Medical and Dental Univ. Graduate School OfMedicine
Takase, Kozo — Tokyo Medical and Dental Univ.
Tanaka, Naofumi — Tokyo Medical and Dental Univ.

16:40-17:00 WeIVT3.3

A Robotic Palpation-Based Needle Insertion Method for Diagnostic Biopsy and Treatment of Breast Cancer, pp. 5534-5539.

Kobayashi, Yo — Waseda Univ.
Suzuki, Makiko — Waseda Univ.
Kato, Atsushi — Waseda Univ.
Konishi, Kozo — Kyushu Univ.
Hashizume, Makoto — Kyushu Univ.
Fujie, Masakatsu G. — Waseda Univ.

17:00-17:20 WeIVT3.4

Cooperative Robotic Assistant for Laparoscopic Surgery: CoBRASurge, pp. 5540-5545.

Zhang, Xiaoli — Univ. of Nebraska Lincoln
Lehman, Amy C. — Univ. of Nebraska-Lincoln
Nelson, Carl — Univ. of Nebraska-Lincoln
Farritor, Shane — Univ. of Nebraska Lincoln
Oleynikov, Dmitry — Univ. of Nebraska Medical Center

17:20-17:40 WeIVT3.5

System Design of an Insertable Robotic Effector Platform for Single Port Access (SPA) Surgery, pp. 5546-5552. Attachment

Xu, Kai — Columbia Univ.
Goldman, Roger E. — Columbia Univ.
Ding, Jienan — Columbia Univ.
Allen, Peter — Columbia Univ.
Fowler, Dennis — Columbia Univ.

Simaan, Nabil   Columbia Univ.

WeIVT4   Grand F
Mobile Robot Control II (Regular Sessions)

Chair: Minor, Mark	Univ. of Utah
Co-Chair: Kemp, Charlie	Georgia Inst. of Tech.

16:00-16:20   WeIVT4.1

RF Vision: RFID Receive Signal Strength Indicator (RSSI) Images for Sensor Fusion and Mobile Manipulation, pp. 5553-5560.

Deyle, Travis	Georgia Inst. of Tech.
Nguyen, Hai	Georgia Inst. of Tech.
Reynolds, Matthew	Duke Univ.
Kemp, Charlie	Georgia Inst. of Tech.

16:20-16:40   WeIVT4.2

A Fuzzy Logic Approach to Passive RFID for Mobile Robot Applications, pp. 5561-5566.

Milella, Annalisa	Italian National Res. Council (CNR)
Di Paola, Donato	Italian National Res. Council (CNR)
Cicirelli, Grazia	Italian National Res. Council (CNR)
Distante, Arcangelo	Italian National Res. Council (CNR)

16:40-17:00   WeIVT4.3

Localization for Multi-Axle Train Configured CFMMRs, pp. 5567-5572.

Vogt, Andrew Peter	Univ. of Utah
Minor, Mark	Univ. of Utah

17:00-17:20   WeIVT4.4

Generalized Velocity Obstacles, pp. 5573-5578. Attachment

Wilkie, David	Univ. of North Carolina
van den Berg, Jur	Univ. of North Carolina at Chapel Hill
Manocha, Dinesh	UNC at Chapel Hill

17:20-17:40   WeIVT4.5

Competition of Two-Wheel Inverted Pendulum Type Robot Vehicleon MCR Course, pp. 5579-5584. Attachment

Takita, Yoshihiro	National Defense Acad.
Date, Hisashi	National Defense Acad.
Shimazu, Haruo	Renesas Tech. Corp.

WeIVT5   Grand G
Sensor Fusion III (Regular Sessions)

Chair: Solŕ, Joan	LAAS-CNRS, Univ. of Toulouse
Co-Chair: Lyons, Damian	Fordham Univ.

16:00-16:20   WeIVT5.1

Head-Mounted 3D Multi Sensor System for Modeling in Daily-Life Environment, pp. 5585-5590.

Yaguchi, Hiroaki	The Univ. of Tokyo
Okada, Kei	The Univ. of Tokyo
Inaba, Masayuki	The Univ. of Tokyo

16:20-16:40   WeIVT5.2

Vision and RFID-Based Person Tracking in Crowds from a Mobile Robot, pp. 5591-5596.

Germa, Thierry	LAAS - CNRS
Lerasle, Frederic	LAAS - CNRS
Ouadah, Noureddine	Centre de Développement des Tech. Avancées (CDTA)
Cadenat, Viviane	Centre National de la Recherche Scientifique
Devy, Michel	LAAS-CNRS

16:40-17:00   WeIVT5.3

Cross-Modal Localization through Mutual Information, pp. 5597-5602.

Alempijevic, Alen	Univ. of Tech. Sydney
Kodagoda, Sarath	Univ. of Tech. Sydney
Dissanayake, Gamini	Univ. of Tech. Sydney

17:00-17:20   WeIVT5.4

Sharing Landmark Information Using Mixture of Gaussian Terrain Spatiograms, pp. 5603-5608.

Lyons, Damian	Fordham Univ.

17:20-17:40   WeIVT5.5

Human Augmented Mapping for Indoor Environments Using a Stereo Camera, pp. 5609-5614.

Kim, Soohwan	Korea Inst. of Science and Tech.
Cheong, Howon	KIST/Yonsei Univ.
Park, Ju-Hong	MtekVision Co, Ltd.
Park, Sung-Kee	Korea Inst. of Science and Tech.

WeIVT6   Grand H
Teleoperation with Time Delay (Regular Sessions)

Chair: Lee, Dongjun	Univ. of Tennessee-Knoxville
Co-Chair: Burridge, Robert R.	TRACLabs, Inc.

16:00-16:20	WeIVT6.1

Implementation and Experiments of Passive Set-Position Modulation for Internet Teleoperation and Slow/Varying-Rate Haptics, pp. 5615-5620.

| Huang, Ke | Univ. of Tennessee |
| Lee, Dongjun | Univ. of Tennessee-Knoxville |

16:20-16:40	WeIVT6.2

A Minimum Jerk Predictor for Teleoperation with Variable Time Delay, pp. 5621-5627.

| Smith, Claes Christian | Royal Inst. of Tech. |
| Christensen, Henrik Iskov | Georgia Inst. of Tech. |

16:40-17:00	WeIVT6.3

Using Prediction to Enhance Robot Supervision across Time Delay, pp. 5628-5634.

| Burridge, Robert R. | TRACLabs, Inc. |
| Hambuchen, Kimberly | NASA Johnson Space Center |

17:00-17:20	WeIVT6.4

Intercontinental, Multimodal, Wide-Range Tele-Cooperation Using a Humanoid Robot, pp. 5635-5640. Attachment

Evrard, Paul	CNRS
Mansard, Nicolas	AIST/CNRS JRL-Japan
Stasse, Olivier	CNRS/AIST
Kheddar, Abderrahmane	CNRS
Schauß, Thomas	Tech. Univ. München
Weber, Carolina	Univ. München
Peer, Angelika	Tech. Univ. München
Buss, Martin	Tech. Univ. München

17:20-17:40	WeIVT6.5

Improving Unmanned Aerial Vehicle Pilot Training and Operation for Flying in Cluttered Environments, pp. 5641-5646.

Hing, James	Drexel Univ.
Sevcik, Keith	Drexel Univ.
Oh, Paul Y.	Drexel Univ.

WeIVT7	Mills 1
Design of Robotic Mechanisms II (Regular Sessions)	
Chair: Transeth, Aksel Andreas	SINTEF ICT
Co-Chair: Papanikolopoulos, Nikos	Univ. of Minnesota

16:00-16:20	WeIVT7.1

Drive Train Design Enabling Locomotion Transition of a Small Hybrid Air-Land Vehicle, pp. 5647-5652. Attachment

Bachmann, Richard J.	BioRobots, LLC
Vaidyanathan, Ravi	Univ. of Bristol
Quinn, Roger, D.	Case Western Res. Univ.

16:20-16:40	WeIVT7.2

More Than Meets the Eye: A Hybrid-Locomotion Robot with Rotary Flight and Wheel Modes, pp. 5653-5658.

Kossett, Alex	Univ. of Minnesota
Purvey, Jesse	Univ. of Minnesota
Papanikolopoulos, Nikos	Univ. of Minnesota

16:40-17:00	WeIVT7.3

A New Modular Schema for the Control of Tumbling Robots, pp. 5659-5664.

| Hemes, Brett | CSE, UMN |
| Papanikolopoulos, Nikos | Univ. of Minnesota |

17:00-17:20	WeIVT7.4

A Snake-Like Robot for Internal Inspection of Complex Pipe Structures (PIKo), pp. 5665-5671.

Fjerdingen, Sigurd Aksnes	SINTEF ICT
Liljebäck, Pĺl	SINTEF IKT
Transeth, Aksel Andreas	SINTEF ICT

17:20-17:40	WeIVT7.5

JSEL: Jamming Skin Enabled Locomotion, pp. 5672-5677.

Steltz, Erik	iRobot
Mozeika, Annan	iRobot Corp.
Jaeger, Heinrich	Univ. of Chicago
Rodenberg, Nick	Univ. of Chicago
Brown, Eric	Univ. of Chicago

WeIVT8	Mills 2
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Chair: Filipovic, Mirjana	Mihajlo Pupin Inst.
Co-Chair: Lee, Ju-Jang	KAIST

16:00-16:20	WeIVT8.1

Antagonistic and Series Elastic Actuators: A Comparative Analysis on the Energy Consumption, pp. 5678-5684.

Laffranchi, Matteo	Italian Inst. of Tech.
Tsagarakis, Nikolaos	Italian Inst. of Tech. (IIT)
Canella, Ferdinando	Italain Inst. of Tech.

Caldwell, Darwin G.	Italian Inst. of Tech.

16:20-16:40 — WeIVT8.2

Stochastic Static Analysis of Link Driven by Actuator Bundles, pp. 5685-5690.

Yoshimura, Takahiro	Ritsumeikan Univ.
Shibata, Mizuho	Ritsumeikan Univ.
Hirai, Shinichi	Ritsumeikan Univ.

16:40-17:00 — WeIVT8.3

Euler-Bernoulli Equation Today, pp. 5691-5696.

Filipovic, Mirjana	Mihajlo Pupin Inst.

17:00-17:20 — WeIVT8.4

Vibration Control of a Flexible Arm for the ITER Maintenance Using Unknown Visual Features from Inside the Vessel, pp. 5697-5704. Attachment

Dubus, Gregory	CEA List
David, Olivier	CEA List
Measson, Yvan	CEA LIST

17:20-17:40 — WeIVT8.5

Enhanced Manipulator's Safety with Artificial Pneumatic Muscle, pp. 5705-5710.

Choi, Tae-Yong	KAIST
Choi, Byoung-Suk	KAIST
Sugisaka, Masanori	ALife Robotics Corp. Ltd.
Lee, Ju-Jang	KAIST

WeIVT9 — Mills 3

Computer Vision Methologies (Regular Sessions)

Chair: Zhang, Jianwei	Univ. of Hamburg
Co-Chair: Meng, Max	The Chinese Univ. of Hong Kong

16:00-16:20 — WeIVT9.1

Selecting Good Corners for Structure and Motion Recovery Using a Time-Of-Flight Camera, pp. 5711-5716.

Gemeiner, Peter	Vienna Univ. of Tech.
Jojic, Peter	Vienna Univ. of Tech.
Vincze, Markus	Vienna Univ. of Tech.

16:20-16:40 — WeIVT9.2

Fast Detection of Arbitrary Planar Surfaces from Unreliable 3D Data, pp. 5717-5724.

Heracles, Martin	Honda Res. Inst. Europe
Bolder, Bram	Honda Res. Inst. Europe
Goerick, Christian	Honda Res. Inst. Europe GmbH

16:40-17:00 — WeIVT9.3

A Vision Based System for Attitude Estimation of UAVs, pp. 5725-5730. Attachment

Thurrowgood, Saul	Univ. of Queensland
Soccol, Dean	Univ. of Queensland
Moore, Richard James Donald	Univ. of Queensland
Bland, Daniel Peter	Univ. of Queensland
Srinivasan, Mandyam	The Univ. of Queensland

17:00-17:20 — WeIVT9.4

Probabilistic Cluster Signature for Modeling Motion Classes, pp. 5731-5736.

Wu, Shandong	City Univ. of Hong Kong
Li, Y.F.	City Univ. of Hong Kong
Zhang, Jianwei	Univ. of Hamburg

17:20-17:40 — WeIVT9.5

In Situ Analysis of Capsule Endoscopy Images and Preliminary Results, pp. 5737-5742.

Wang, Xiaona	The Chinese Univ. of Hong Kong
Meng, Max	The Chinese Univ. of Hong Kong

WeIVT10 — Mills 4

Control of Robot Manipulation (Regular Sessions)

Chair: Aghili, Farhad	Canadian Space Agency
Co-Chair: Seto, Fumi	Chiba Inst. of Tech.

16:00-16:20 — WeIVT10.1

Online Reference Shaping with End-Point Position Feedback for Large Acceleration Avoidance on Manipulator Control, pp. 5743-5748.

Seto, Fumi	Chiba Inst. of Tech.
Sugihara, Tomomichi	Kyushu Univ.

16:20-16:40 — WeIVT10.2

Trajectory Scaling for a Manipulator Inverse Dynamics Control Subject to Generalized Force Derivative Constraints, pp. 5749-5754.

Guarino Lo Bianco, Corrado	Univ. of Parma
Gerelli, Oscar	Univ. of Parma

16:40-17:00 — WeIVT10.3

Prioritized Optimization for Task-Space Control, pp. 5755-5762. Attachment

de Lasa, Martin	Univ. of Toronto
Hertzmann, Aaron	Univ. of Toronto

17:00-17:20 — WeIVT10.4

Projection-Based Control of Parallel Mechanisms, pp. 5763-5769.
- Aghili, Farhad — Canadian Space Agency

17:20-17:40 — WeIVT10.5

Optimal Path Planning in the Workspace for Articulated Robots Using Mixed Integer Programming, pp. 5770-5775.
- Ding, Hao — Univ. of Kassel
- Zhou, Mingxiang — Tech. Univ. Munich
- Stursberg, Olaf — Univ. of Kassel

WeIVT11 — Mills 5

Planning (Regular Sessions)

- Chair: Miura, Jun — Toyohashi Univ. of Tech.
- Co-Chair: Oh, Se-Young — POSTECH

16:00-16:20 — WeIVT11.1

Cell-RRT: Decomposing the Environment for Better Plan, pp. 5776-5781.
- Guitton, Julien — ONERA
- Farges, Jean-Loup — ONERA
- Chatila, Raja — LAAS-CNRS

16:20-16:40 — WeIVT11.2

Motion Planner and Lateral-Longitudinal Controllers for Autonomous Maneuvers of a Farm Vehicle in Headland, pp. 5782-5787.
- Cariou, Christophe — Cemagref
- Lenain, Roland — Cemagref
- Thuilot, Benoit — Clermont-Ferrand Univ.
- Martinet, Philippe — Blaise Pascal Univ.

16:40-17:00 — WeIVT11.3

Online Complete Coverage Path Planning for Mobile Robots Based on Linked Spiral Paths Using Constrained Inverse Distance Transform, pp. 5788-5793. Attachment
- Choi, Young-ho — Pohang Inst. of Intelligent Robotics (PIRO)
- Lee, Tae-kyeong — Pohang Univ. of Science and Tech.
- Baek, Sanghoon — POSTECH
- Oh, Se-Young — POSTECH

17:00-17:20 — WeIVT11.4

Observation Planning for Efficient Environment Information Summarization, pp. 5794-5800.
- Masuzawa, Hiroaki — Toyohashi Univ. of Tech.
- Miura, Jun — Toyohashi Univ. of Tech.

17:20-17:40 — WeIVT11.5

Development of Wearable-Agri-Robot - Mechanism for Agricultural Work -, pp. 5801-5806.
- Yamamoto, Gohei — Tokyo Univ. of Agriculture and Tech.
- Toyama, Shigeki — TUAT

WeIVT12 — Mills 6

Distrubuted Robotics: Sensing (Regular Sessions)

- Chair: Carpin, Stefano — Univ. of California, Merced
- Co-Chair: Fierro, Rafael — Univ. of New Mexico

16:00-16:20 — WeIVT12.1

Image-Based Mapping and Navigation with Heterogeneous Robots, pp. 5807-5814.
- Erinc, Gorkem — Univ. of California Merced
- Carpin, Stefano — Univ. of California, Merced

16:20-16:40 — WeIVT12.2

Prioritized Sensor Detection Via Dynamic Voronoi-Based Navigation, pp. 5815-5820.
- Cortez, Andres — Univ. of New Mexico
- Fierro, Rafael — Univ. of New Mexico
- Wood, John — Univ. of New Mexico

16:40-17:00 — WeIVT12.3

Surveillance Strategies for Target Detection with Sweep Lines, pp. 5821-5827. Attachment
- Kolling, Andreas — Univ. of California Merced
- Carpin, Stefano — Univ. of California, Merced

17:00-17:20 — WeIVT12.4

A Unified Methodology for Multi-Robot Passive & Active Sensing, pp. 5828-5833.
- Kosmatopoulos, Elias — Tech. Univ. of Crete
- Doitsidis, Lefteris — Tech. Univ. of Crete
- Aboudolas, Konstantinos — Tech. Univ. of Crete

17:20-17:40 — WeIVT12.5

Collective Transport of Robots: Coherent, Minimalist Multi-Robot Leader-Following, pp. 5834-5840. Attachment
- Gupta, Megha — Univ. of Southern California
- Das, Jnaneshwar — Univ. of Southern California
- Vieira, Marcos — Univ. of Southern California
- Heidarsson, Hordur Kristinn — Univ. of Southern California
- Vathsangam, Harshvardhan — Univ. of Southern California

Sukhatme, Gaurav   Univ. of Southern California

WeIVT13   Mills 7
Multi-Robot Cooperation (Regular Sessions)

Chair: Clark, C. M.	California Pol. State Univ.
Co-Chair: Barnes, Laura	Univ. of Texas at Arlington

16:00-16:20   WeIVT13.1

Multi-Robot Team Coordination through Roles, Positionings and Coordinated Procedures, pp. 5841-5848.

Lau, Nuno	Aveiro Univ.
Seabra Lopes, Luís	Univ. de Aveiro
Corrente, Gustavo	Univ. de Aveiro
Filipe, Nelson	Univ. de Aveiro

16:20-16:40   WeIVT13.2

Altruistic Task Allocation Despite Unbalanced Relationships within Multi-Robot Communities, pp. 5849-5854.

Morton, Ryan	Cal Pol. - San Luis Obispo
Bekey, George	Univ. of Southern California
Clark, C. M.	California Pol. State Univ.

16:40-17:00   WeIVT13.3

Entrapment/Escorting and Patrolling Missions in Multi-Robot Cluster Space Control, pp. 5855-5861.

Mas, Ignacio	Santa Clara Univ.
Li, Steven	Santa Clara Univ.
Acain, Jose	Santa Clara Univ.
Kitts, Christopher	Santa Clara Univ.

17:00-17:20   WeIVT13.4

Effective Robot Team Control Methodologies for Battlefield Applications, pp. 5862-5867.

Fields, MaryAnne	Army Res. Lab.
Ellen, Haas	Army Res. Lab.
Hill, Susan	Us Army Res. Lab.
Stachowiak, Chris	Army Res. Lab.
Barnes, Laura	Univ. of Texas at Arlington

17:20-17:40   WeIVT13.5

Negotiation of Target Points for Teams of Heterogeneous Robots: An Application to Exploration, pp. 5868-5873.

Rossi, Claudio	Univ. Pol. de Madrid
Aldama, Leyre	Univ. Pol. de Madrid
Barrientos, Antonio	UPM
Valero, Alberto	Univ. Pol. de Madrid
Sánchez, Carlos	Univ. Pol. de Madrid

17:20-17:40   WeIVT13.6

Scaling Effects for Streaming Video vs. Static Panorama in Multirobot Search, pp. 5874-5879.

Velagapudi, Prasanna	Carnegie Mellon Univ.
Wang, Huadong	Univ. of Pittsburgh
Scerri, Paul	Carnegie Mellon Univ.
Lewis, Michael	Univ. of Pittsburgh
Sycara, Katia	Carnegie Mellon Univ.

WeIVT14   Mills 8
Redundant Robots (Regular Sessions)

Chair: Yim, Mark	Univ. of Pennsylvania
Co-Chair: Liu, Zhengyong	Ritsumeikan Univ.

16:00-16:20   WeIVT14.1

A DOF State Controllable & Driving Shared Solution for Building a Hyper-Redundant Chain Robot, pp. 5880-5885.

Ning, KeJun	Univ. of Goettingen
Woergoetter, Florentin	Univ. of Goettingen

16:20-16:40   WeIVT14.2

A Task-Priority Based Framework for Multiple Tasks in Highly Redundant Robots, pp. 5886-5891.

Jeong, Jae Won	Korea Advanced Inst. of Science and Tech. (KAIST)
Chang, Pyung Hun	KAIST

16:40-17:00   WeIVT14.3

Prioritized Closed-Loop Inverse Kinematic Algorithms for Redundant Robotic Systems with Velocity Saturations, pp. 5892-5897.

Antonelli, Gianluca	Univ. degli Studi di Cassino
Indiveri, Giovanni	Univ. of Salento
Chiaverini, Stefano	Univ. di Cassino

17:00-17:20   WeIVT14.4

Re-Design of Force Redundant Parallel Mechanisms by Introducing Kinematical Redundancy, pp. 5898-5904.

Nagai, Kiyoshi	Ritsumeikan Univ.
Liu, Zhengyong	Ritsumeikan Univ.

17:20-17:40   WeIVT14.5

Modular Configuration Design for a Controlled Fall, pp. 5905-5910. Attachment

Mather, Thomas, W	Univ. of Pennsylvania

Yim, Mark Univ. of Pennsylvania

WeIVT15 Sterling 6
Path Planning: Multiple Mobile Robots (Regular Sessions)

Chair: Wang, Zhidong Chiba Inst. of Tech.
Co-Chair: Xiao, Jizhong City Coll. of New York

16:00-16:20 WeIVT15.1
The Null-Space Based Behavioral Control for a Team of Cooperative Mobile Robots with Actuator Saturations, pp. 5911-5916. Attachment
Arrichiello, Filippo Univ. di Cassino
Chiaverini, Stefano Univ. di Cassino
Indiveri, Giovanni Univ. of Salento
Pedone, Paola Univ. del Salento

16:20-16:40 WeIVT15.2
Independent Navigation of Multiple Mobile Robots with Hybrid Reciprocal Velocity Obstacles, pp. 5917-5922. Attachment
Snape, Jamie Univ. of North Carolina at Chapel Hill
van den Berg, Jur Univ. of North Carolina at Chapel Hill
Guy, Stephen J. Univ. of North Carolina at Chapel Hill
Manocha, Dinesh UNC at Chapel Hill

16:40-17:00 WeIVT15.3
A Path Planning Method for Dynamic Object Closure by Using Random Caging Formation Testing, pp. 5923-5929.
Wang, Zhidong Chiba Inst. of Tech.
Matsumoto, Hidenori Chiba Inst. of Tech.
Hirata, Yasuhisa Tohoku Univ.
Kosuge, Kazuhiro Tohoku Univ.

17:00-17:20 WeIVT15.4
A Dynamic Path Planning Approach for Multi-Robot Sensor-Based Coverage Considering Energy Constraints, pp. 5930-5935.
Yazici, Ahmet Eskisehir Osmangazi Univ.
Kirlik, Gokhan Eskisehir Osmangazi Univ.
Parlaktuna, Osman OSMANGAZI Univ.
Sipahioglu, Aydin Eskisehir Osmangazi Univ.

17:20-17:40 WeIVT15.5
Solvability of Multi Robot Motion Planning Problems on Trees, pp. 5936-5941.
Masehian, Ellips Tarbiat Modares Univ.
Hassan Nejad, Azadeh Tarbiat Modares Univ.

WeIVT16 Regency D
Visual Servoing II (Regular Sessions)

Chair: Fan, Zhun Tech. Univ. of Denmark
Co-Chair: Chaumette, Francois INRIA Rennes-Bretagne Atlantique

16:00-16:20 WeIVT16.1
Pose-Estimation-Based Visual Servoing for Differential-Drive Robots Using the 1D Trifocal Tensor, pp. 5942-5947.
Becerra, Hector Univ. de Zaragoza
Sagues, Carlos Univ. de Zaragoza

16:20-16:40 WeIVT16.2
Using Active Contour Models for Feature Extraction in Camera-Based Seam Tracking of Arc Welding, pp. 5948-5955.
Liu, Jinchao Tech. Univ. of Denmark
Fan, Zhun Tech. Univ. of Denmark
Soeren, Olsen Univ. of Copenhagen
Kim, Christensen FORCE Tech.
Jens, Kristensen FORCE Tech.

16:40-17:00 WeIVT16.3
Task Selection for Control of Active Vision Systems, pp. 5956-5961.
Iwatani, Yasushi Tohoku Univ.

17:00-17:20 WeIVT16.4
Visual Servo in Polar Coordinates: IBVS-P, pp. 5962-5967.
Corke, Peter CSIRO
Spindler, Fabien INRIA
Chaumette, Francois INRIA Rennes-Bretagne Atlantique

17:20-17:40 WeIVT16.5
Visual Navigation with a Time-Independent Varying Reference, pp. 5968-5973. Attachment
Cherubini, Andrea INRIA Rennes - Bretagne Atlantique
Chaumette, Francois INRIA Rennes-Bretagne Atlantique

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