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Tokyo Institute of Technology, Department of Mechanical Design and Engineering

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10/2017 - Current Visiting Scholar, Department for Mechanical Sciences and Engineering, Tokyo Institute of Technology, Tokyo, Japan

06/2011 - Current Adjunct Researcher, Research Institute for Sci. and Eng., Waseda University, Tokyo, Japan

06/2011 –03/2011 Senior Lecturer, Faculty of Technology and Science, Karlstad University, Karlstad, Sweden

04/2009 –05/2011 Assistant Professor, Research Institute for Science and Engineering, Waseda University, Tokyo, Japan

10/2009–11/2009 Visiting Professor, Warsaw University of Technology, Warsaw, Poland (P)316er18.3 (20)a50Vu8w (W)-137.94.1 5B.J

JORGE

- [Mechatronics E \(ELGB06\)](#), Bachelor in Electrical Engineering, Karlstad University (2014-2015)
- [Automatic Control \(ELGB03\)](#), Bachelor in Mechatronics, Karlstad University (2012-2014)
- [Robotics and Embedded Control \(ELAD15\)](#), Master of Science in Engineering, Degree Programme in Electrical Engineering, Karlstad University (2011-2012)
- [Advanced Robotics and Intelligent Control \(ELAD16\)](#), Master of Science in Engineering, Degree Programme in Electrical Engineering (2011-2012)
- Robotics Course, European Master on Advanced Robotics, Warsaw University of Technology (2009, 15hrs)
- Responsible: Prof. Solis
- Mechatronics Laboratory 1, School of Creative Science and Engineering, Waseda University (2006–2010)
- Responsibilities: Prof. Sugano, Prof. Solis, Prof. Takanishi, Prof. Fujie
- Mechatronics Laboratory 2, School of Creative Science and Engineering, Waseda University (2006–2009)
- Responsibilities: Prof. Iwata, Prof. Sugano, Prof. Solis, Prof. Takanishi, Prof. Fujie

CO-DIRECTION OF THESIS & EXAMINATION

Ph.D. Students

1. Name: Juan Manuel Jacinto Villegas, Scuola Superiore Sant’Anna – PERCRO (evaluation committee)
Title: Teleoperation, Teleoperation-Robotics and Industrial Context
Year: 03/2017
2. Name: Daniel R. Ramirez Rebollo, ITESM – Campus Cd. De Mexico (internship)
Title: System integration of a multipurpose human-friendly assistive robot vehicle
Year: 08/2016 – 01/2017
3. Name: Erfan Shojaei Barjuei, Università degli studi di Udine (internship)
Title: Control design of a human-friendly walking assist robot vehicle
Year: 08/2015 – 12/2016
4. Name: Marina Vela, Scuo-9.6 , Sd2.4284jEMC /LBody

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Title: Simulative comparison of Kalman filters for state estimation of Li-ion batteries in electric vehicles

Year: 02/2014

9. Faisal Mahmood Ahmed (Karlstad University; Supervisor)

Title: Estimated Droop Control for Parallel Connected Voltage Source Inverters

Year: 12/2013

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Year: 05/2017 – 12/2017

3. Christoffer Karlsson (internship)
Title: Assistive Eating Device – Vision System to keep track of user food intake
Year: 05/2017 – 12/2017
4. Fernanda Amaral Melo (internship)
Title: 3D gesture recognition of an intelligent carrying-medical tool assistant robot
Year: 08/2016 – 12/2016
5. Jose Pablo de la Rosa (internship)
Title: System integration of a walking assistive robot vehicle
Year: 08/2014 – 12/2014
6. Tommie Hilmersson (Karlstad University; Supervisor)
Title: Uppbyggnad och reglering av en pumpstation till ett injektionssystem (in Swedish)
Year: 10/2014
7. Johan Hansson (Karlstad University, Supervisor)
Title: Systemanalys flingtork : Produktionseffektivisering (in Swedish)
Year: 09/2014
8. Per-Martin Häggström (Karlstad University; Supervisor)
Title: Omkonstruktion av treaxlig plockrobot och dess plockverktyg (in Swedish)
Year: 09/2014
9. KUSANO Takafumi (Waseda University; Co-supervisor)
Title: Development of new mouth and finger mechanisms for the Anthropomorphic Saxophone Robot (in Japanese)
Year: 02/2010
10. SUGITA Yoshihisa (Waseda University; Co-supervisor)
Title: Development of an embedded-

- Associate Editor, Robotics Science and Systems
- 2013-current** Associate Editor, International Journal on Advanced Robotic Systems
- 2010-current** Guest Editor, IEEE-RAS Robotics and Automation Magazine
- Associate Editor, IEEE-RAS&EMBS International Conference on Biomedical Robotics and Biomechatronics
- Associate Editor, IEEE International Conference on Robotics and Automation
- Associate Editor, IEEE/RSJ International Conference on Intelligent Robots and Systems
- Associate Editor, IEEE/ASME International Conference on Advanced Intelligent Mechatronics
- Associate Editor, IEEE International Symposium in Robot and Human Interactive Communication
- Co-Organizer, IEEE/RSJ International Conference on Intelligent Robots and Systems , [Workshop on Robots and Musical Expressions](#), Taiwan, October 18
- 2009** Session Chairman, Eighteenth International IEEE Symposium on Robot and Human Interactive Communication: Robots in Art, Education, and Entertainment. Toyama, Japan, September 27–October 1
- Co-Organizer, IEEE International Conference on Intelligent Robots and Systems, [Workshop on Biologically-Inspired Robotics](#), St. Louis, USA, October 11
- Session Chairman, International IEEE Conference on Intelligent Mechatronics: Service Robots. Singapore, July 13–17
- Co-Organizer, IEEE International Conference on Robotics and Automation, [Workshop on Roboethics](#), Kobe, Japan, May 17
- Co-Chair, IEEE-RAS TC on Biologically Inspired Robots
- Chair, 5th Asia-Pacific Computing and Philosophy Conference, Robo Ethics Session, Tokyo, Japan, October 1–2

PUBLICATIONS (INTERNATIONAL, PEER REVIEWED)

Edited Volumes

1. De Vin, L., Solis, J., **Proceedings of the 14th Mechatronics Forum International Conference Mechatronics 2014** (ISBN 978-91-7063-564-9)
2. Solis, J., Kia, N. (Eds.) (2011). **Musical Robots and Interactive Multimodal Systems**, Springer (Tract in Advanced Robotics): Heidelberg, Germany (ISBN 978-3-642-22290-0).
3. Gianmarco, V., Solis, J., Van der Loos, M. (2011). **RoboEthics**. IEEE Robotics & Automation Magazine, Vol. 18(1) : NY : USA.

Book Chapters (peer reviewed)

1. Solis, J., (2016). “Pilot Experiments with a Human-friendly Walking Assisting Robot Vehicle,” **ROMANSY 21 - Robot Design, Dynamics and Control**, Schiehlen, W., Parenti-Castelli, V. (Eds.), pp. 395-402.
2. Solis, J., Takanishi, A. (2015) “Human-Friendly Robots for Entertainment Purposes and Their Possible Implications”, **Evolutionary Robotics, Organic Computing and Adaptive Ambience: Epistemological and ethical implications of technomorphic descriptions of technologies**, Michael Decker, Mathias Gutmann, Julia Knifka (Eds.), Berlin/Münster: Lit-Verlag
3. Solis, J. (2015) “Robot Education with mobile robots”, **Designs and Prototypes of mobile robots**, Emin Faruk Kekeci and Marco Ceccarelli (Eds.), ASME, pp. 167-188
4. Solis, J., Takanishi, A., (2014) “Understanding the feasibility and applicability of the musician-humanoid interaction research: A study of the impression of the musical interaction,” **Robotics in Germany and Japan: Cultural and Technical Perspectives**, Funk, M. and Bernhard, I. (Eds.), [Springer](#), 2013 (ISBN 978-3-642-29615-1)

12. Nakadate, R., Solis, J., Takanishi, A., Minagawa, E., Sugawara, M., Niki, K. (2010). Implementation of an Automated Scanning Method of the Carotid Artery using a Assisted-Robotic System based on Ultrasound Image Feedback,” **ROMANSY 18 - Robot Design, Dynamics, and Control**, CISM Lecture Note #524, Schiehlen, W., Parenti-Castelli, V. Eds., Springer, pp. 359-366.
13. Petersen, K., Solis, J., Takanishi, A. (2010). Development of the Waseda Flutist Robot Toward Enhancing the Interaction with Human Musical Partners,” **ROMANSY 18 - Robot Design, Dynamics, and Control**, CISM Lecture Note #524, Schiehlen, W., Parenti-Castelli, V. Eds., Springer, pp. 233-240.
14. Noh Y., Sato, K., Shimomura, A., Segawa, M., Ishii, H., Solis, J., Takanishi, A., Hatake, K. (2010). Development of the Airway Management Training System WKA-3 which Enables Trainees to Effectively Train Airway Management,” **ROMANSY 18 - Robot Design, Dynamics, and Control**, CISM Lecture Note #524, Schiehlen, W., Parenti-Castelli, V. Eds., Springer, pp. 183-190.
15. Solis, J., Suefuji, K., Chida, K., Taniguchi, K., Takanishi, A. (2008). “The mechanical improvements of the anthropomorphic flutist robot WF-4RII to increase the sound clarity and to enhance the interactivity with humans,” **ROMANSY 17 - Robot Design, Dynamics and Control**, Takanishi, A.; Nakamura, Y.; Heimann, B. (Eds.), Kamiya Publishing, pp. 247–254.
16. Solis, J., Taniguchi, K., Ninomiya, T., Yamamoto, T., Takanishi, A. (2006). “The Mechanical Improvements of the Waseda Flutist Robot and the Implementation of an Auditory Feedback Control System,” **ROMANSY 16 - Robot Design, Dynamics and Control**, CISM Lecture Note #487, Zielinska, T.; Zielinski, C. (Eds.), SpringerWienNewYork ed., pp. 217–224.

International Symposium on Mechatronics and its Applications.

53. Solis J., Petersen K., Ninomiya T., Takeuchi M., Takanishi A., (2009) "Mechanism Design and Air-Pressure Feedback Control Implementation of the Anthropomorphic Waseda Saxophonist Robot," in Proceedings of the Ninth IEEE-RAS International Conference on Humanoid Robots, pp. 419-424.
54. Solis J., Petersen K., Ninomiya T., Takeuchi M., Takanishi A. (2009). "Development of Anthropomorphic Musical Performance Robots: From Understanding the Nature of Music Performance to Its Application in Entertainment Robotics," Proceedings of the 2009 IEEE/RSJ International Conference on Intelligent Robots and Systems, pp. 2309-2314.
55. Solis J., Nakadate R., Yoshimura Y., Hama Y., Takanishi A., "Development of the Two-Wheeled Inverted Pendulum Type Mobile Robot WV-2R for Educational Purposes," Proceedings of the 2009 IEEE/RSJ International Conference on Intelligent Robots and Systems, pp. 2347-2352.
56. Petersen K., Solis J., Takanishi. A, "Development of a Aural Real-Time Rhythmical and Harmonic Tracking to Enable the Musical Interaction with the Waseda Flutist Robot," Proceedings of the 2009 IEEE/RSJ International Conference on

76. Petersen K., Solis J., Ninomiya T., Yamamoto T., Takeuchi M, Takanishi A. (2009). "Development of the Anthropomorphic Saxophonist Robot WAS-1: Mechanical Design of the Lip, Tonguing, Fingers and Air Pump Mechanisms," Proceedings of the International Conference on Robotics and Automation, pp. 3043–3048.
77. Noh Y., Segawa M., Shimomura A., Ishii H., Solis J., Takanishi, A., Hatake K., (2009). "Development of the Airway Management Training System WKA-2 that can reproduce the Cases of Difficult Airway," Proceedings of the International Conference on Robotics and Automation, pp. 3843–3838.
78. Solis J., Taniguchi, K., Nimomiya, T., Petersen, K., Yamamoto, T., Takanishi, A. (2008). "The Waseda Flutist Robot No.4 Refined IV: From a Musical Partner to a Musical Teaching Tool," Proceedings of the Second IEEE RAS/EMBS International Conference on Biomedical Robotics and Biomechatronics, pp. 427–432.
79. Solis J., Oshima, N., Ishii, H., Matsuoka, N., Hatake, K., Takanishi, A. (2008). "Development of a Sensor System Toward the Acquisition of Quantitative Information of the Training Progress of Surgical Skills", Proceedings of the Second IEEE RAS/EMBS International Conference on Biomedical Robotics and Biomechatronics, pp. 959–964.
80. Petersen, K., Solis J., Takanishi, A. (2008). "Development of the Waseda Flutist Robot No. 4 Refined IV: Implementation of a Real-Time Interaction System with Human Partners", Proceedings of the Second IEEE RAS/EMBS International Conference on Biomedical Robotics and Biomechatronics, pp. 421–426.
81. Solis J., Takanishi, A., (2008). "Can an anthropomorphic flutist robot display musical skills?," International Conference on Intelligent Robots and Systems, Workshop on Art and Robots, pp. 13-18.
82. Petersen, K., Solis J., Takanishi, A. (2008). "Development of a Real-Time Instrument Tracking System for Enabling the Musical Interaction with the WF-4RIV," IEEE/RSJ International Conference on Intelligent Robots and Systems, pp. 3654–3659.
83. Noh, Y., Segawa, M., Shimomura, A., Ishii, H., Solis J., Hatake, K., Takanishi, A. (2008) Development of the Evaluation System for the Airway Management Training System WKA-1R," Proceedings of the Second IEEE RAS/EMBS International Conference on Biomedical Robotics and Biomechatronics, pp. 514–519.
84. Koga, H., Usuda, Y., Matsuno, M., Ogura, Y., Ishii, H., Solis J., Takanishi, A., Katsumata, A. (2008), "Development of an Oral-Rehabilitation Robot Designed to Provide Massage Therapy for Maxillofacial Tissues," Proceedings of the Second IEEE RAS/EMBS International Conference on Biomedical Robotics and Biomechatronics, pp. 556–561.
85. Solis J., Takanishi, A. (2008). "Approaches to Enable Autonomous Systems to Perceptually Detect Human Performance Improvements and their Applications," IEEE Conference on Automation Science and Engineering, pp. 259–264.
86. Solis, J., Taniguchi, K., Ninomiya, T., Petersen, K., Y33.8 2.4 (,33.8 2.438 refw 1.252J0.00750oMb.5p)13.7 (p.)3.7 (09.3 (38(.3.7 (,)17 (Y33.8 26

126. Avizzano, C.A., Solis, J., Frisoli, A., Bergamasco, M. (2002). "Motor Skill Experiments Using Haptic Interface Capabilities," Eleventh IEEE International Workshop on Robot and Human Interactive Communication, pp. 198–203.
127. Solis, J., Avizzano, C.A., Bergamasco M.

11. [Invited talk on Humanoid Robot Research in Japan: Some Issues on Human Robotic Science and Social Acceptability](#), International Workshop "Future of Robotics in Germany and Japan: Intercultural Perspectives and Technical Opportunities, Dresden University