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Academic Positions

- 2009.08 – SNF Professor at Department of Mechanical and Process Engineering, Swiss Federal Institute of Technology, Switzerland, Director of Bio-Inspired Robotics Laboratory.
- 2006.10 – 2009.07 Postdoctoral associate at Computer Science and Artificial Intelligence Laboratory, Massachusetts Institute of Technology, USA.
- 2005.10 – 2006.09 Postdoctoral associate at Artificial Intelligence Laboratory, Department of Informatics, University of Zurich, Switzerland.
- 2004.04. – 2005.09 Research assistant at Locomotion Laboratory, Institute of Sports Science, University of Jena, Germany
- 1999.04. – 2005.09 Research assistant at Artificial Intelligence Laboratory, Department of Informatics, University of Zurich, Switzerland
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Education

- 2006.03 Dr. sc. nat., Faculty of Natural Science, University of Zurich, Switzerland
Major: Informatics
Title: Cheap design and behavioral diversity of adaptive autonomous robots
- 1999.04. – 2006.03 PhD candidate at Artificial Intelligence Laboratory, Department of Informatics, University of Zurich, Switzerland
- 1999.03. Master of Engineering, Science University of Tokyo, Japan
Major: Mechanical Engineering
Title: Behavior learning of face robot in man-machine interaction
- 1997.04. - 1999.03 Graduate study of mechanical engineering at Science University of Tokyo, Japan
- 1997.03. Bachelor of Mechanical Engineering, Science University of Tokyo, Japan
- 1993.04. - 1997.03 Undergraduate study of mechanical engineering at Science University of Tokyo, Japan
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List of Publications

Thesis

- 2006.03 Dr. sc. nat., Faculty of Natural Science, University of Zurich, Switzerland
Major: Informatics
Title: Cheap design and behavioral diversity of adaptive autonomous robots
- 1999.03. Master of Engineering, Science University of Tokyo, Japan
Major: Mechanical Engineering
Title: Behavior learning of face robot in man-machine interaction
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Journal Publications

1. Iida, F., Tedrake, R. (2009). Minimalistic control of biped walking in rough terrain, *Autonomous Robots*, (submitted).
2. Iida, F., Minekawa, Y., Juergen, R., and Seyfarth, A. (2009). Toward a human-like biped robot with compliant legs, *Robotics and Autonomous Systems*, 57: 139-144..
3. Iida, F., Rummel, J., and Seyfarth, A. (2008). Bipedal walking and running with spring-like biarticular muscles. *Journal of Biomechanics*, Vol. 41, 656-667.
4. Seyfarth, A., Iida, F., Tausch, R., Stelzer, M., von Stryk, O., Karguth, A. (2009). Towards bipedal jogging as a natural result of optimizing walking speed for passively compliant three-segmented legs, *International Journal of Robotics Research*, 28: 257-265.
5. Pfeifer, R., Lungarella, M., Iida, F. (2007). Self-organization, embodiment, and biologically inspired robotics, *Science*, November 16, Vol. 318, 1088-1093.
6. Iida, F. (2007). Book Review: *Autonomous Robots* (Bekey, G., MIT Press), *Artificial Life*, Vol. 13, No. 4: 419-421.
7. Paul, C., Lungarella, M., and Iida, F. (2006). Morphology, control and passive dynamics, Editorial of Special Issue, *Robotics and Autonomous Systems*, Vol. 54 (8), 617-618.
8. Iida, F. and Pfeifer, R. (2006). Sensing through body dynamics, *Robotics and Autonomous Systems*, Vol. 54 (8), 631-640.
9. Pfeifer, R., Iida, F., and Gomez, G. (2006). Designing intelligent robots – on the implications of embodiment, *Journal of Robotics Society of Japan*, Vol.24, No. 07, 9-16.
10. Pfeifer, R., Iida, F., and Gomez, G. (2006). Morphological computation for adaptive behavior and cognition, *International Congress Series*, Vol. 1291, 22-29.
11. Pfeifer, R., Iida, F., and Bongard, J. (2005). New robotics: Design principles for intelligent systems. *Artificial Life*, Vol. 11, No. 1-2, 99-120.
12. Pfeifer, R. and Iida, F. (2005). Morphological computation: Connecting body, brain and environment. *Japanese Scientific Monthly*, Vol. 58, No. 2, 48-54.
13. Iida, F. (2003). Biologically inspired visual odometer for navigation of a flying robot, *Robotics and*

Books/Book Chapters

14. Iida, F., and Bovet, S. (2009). Learning legged locomotion, In: *Artificial Life Models in Hardware*, Adamatzky, A., and Komosinski, M. (Eds.), Springer, (in press).
 15. Iida, F., Pfeifer, R., and Seyfarth, A. (2008). AI in locomotion, In: *50 Years of Artificial Intelligence*, LNCS/AI Vol. 4850, Lungarella et al. (Eds.), Springer, 134-143.
 16. Lungarella, M., Iida, F., Bongard, J., and Pfeifer, R. (2008). AI in the 21st century: With historical reflections, In: *50 Years of Artificial Intelligence*, LNCS/AI Vol. 4850, Lungarella et al. (Eds.), Springer, 1-8.
 17. Lungarella, M., Iida, F., Bongard, J., and Pfeifer, R. (Eds.) (2008). *50 years of artificial intelligence*, LNCS/AI Vol. 4850, Springer.
 18. Seyfarth, A., Geyer, H., Blickhan, R., Lipfert, S., Rummel, J., Minekawa, Y., and Iida, F. (2006). Running and walking with compliant legs. In: *Fast motions in biomechanics and robotics - optimization and feedback control*. Chapter 19, Springer.
 19. Iida, F. and Pfeifer, R. (2004). Self-stabilization and behavioral diversity of embodied adaptive locomotion. *Embodied artificial intelligence*, Iida et al. (Eds), LNCS/AI Vol. 3139, 119-128, Springer.
 20. Pfeifer, R. and Iida, F. (2004). *Embodied artificial intelligence: Trends and challenges*. *Embodied artificial intelligence*, Iida et al. (Eds), LNCS/AI Vol. 3139, 1-26, Springer.
 21. Iida, F.; Pfeifer, R.; Steels, L.; Kuniyoshi, Y. (Eds.) (2004). *Embodied artificial intelligence*. *Lecture Notes in Computer Science*, Vol. 3139, Springer, ISBN: 3-540-22484-X.
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Refereed Conference Publications

22. Manchester, I., Mettin, U., Iida F., Tedrake, R. (2009). Stable dynamic walking over rough terrain: Theory and experiment, *International Symposium of Robotics Research (ISRR 09)*, (in press).
23. Iida, F. and Tedrake, R. (2009). Minimalistic control of a compass gait robot in rough terrain. Submitted to the *IEEE/RAS International Conference on Robotics and Automation (ICRA 09)*, 1985-1990.
24. Rummel, J., Iida, F., Seyfarth, A. (2008). Enlarging regions of stable running with segmented legs, *IEEE International Conference on Robotics and Automation (ICRA 08)*, 367-372.
25. Iida, F. and Tedrake, R. (2007). Optimization of motor control in underactuated one-legged locomotion, *IEEE/RSJ International Conference on Robotics and Systems (IROS 07)*, 2230-2235.
26. Iida, F., Rummel, J., and Seyfarth, A. (2007). Bipedal walking and running with compliant legs, *IEEE International Conference on Robotics and Automation (ICRA 07)*, 3970-3975.
27. Buchli, J., Iida, F., and Ijspeert, A. J. (2006). Finding resonance: Adaptive frequency oscillators for dynamic legged locomotion, *Proc. of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 06)*, 3903-3909.
28. Iida, F., Minekawa, Y. Rummel, J., and Seyfarth, A. (2006). Toward a human-like biped robot with compliant

- legs, Intelligent Autonomous Systems 9, Arai, T. et al. (Eds.), IOS Press, 820-827.
29. Rummel, J., Iida, F., and Seyfarth, A. (2006). One-legged locomotion with a compliant passive joint, Intelligent Autonomous Systems 9, Arai, T. et al. (Eds.), IOS Press, 566-573.
 30. Iida, F. (2005). Cheap design approach to adaptive behavior: Walking and sensing through body dynamics, International Symposium on Adaptive Motion of Animals and Machines 2005.
 31. Ziegler, M., Iida, F., and Pfeifer, R. (2006). “Cheap” underwater locomotion: Roles of morphological properties and behavioral diversity, Proceedings of Climbing and Walking Robots (CLAWAR 06).
 32. Hamburger, V., Berns, K., Iida, F. (2005). Standing up with motor primitives, International Conference on Climbing and Walking Robots (CLAWAR'05), 383-390.
 33. Iida, F., Gomez, G. J., and Pfeifer, R. (2005). Exploiting body dynamics for controlling a running quadruped robot. IEEE International Conference on Advanced Robotics (ICAR05), 229-235.
 34. Iida, F. and Pfeifer, R. (2004). “Cheap” rapid locomotion of a quadruped robot: Self-stabilization of bounding gait, Proc. of Intelligent Autonomous Systems 8, F. Groen et al. (Eds.), IOS Press, 642-649.
 35. Iida, F. (2003). Exploiting friction for the locomotion of a hopping robot, The 2nd International Symposium on Adaptive Motion of Animals and Machines (AMAM03).
 36. Frutiger, F., Bongard, J., Iida, F. (2002). Iterative product engineering: Evolutionary robot design, The Fifth International Conference on Climbing and Walking Robots (CLAWAR'02), 619-626.
 37. Iida, F., Dravid, R., and Paul C. (2002). Design and control of a pendulum driven hopping robot, Proc. of the IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 02), 2141-2146.
 38. Iida, F. (2002). Biologically inspired visual odometer for navigation of a flying robot. Proceedings of Intelligent Autonomous Systems 7, 142-149.
 39. Iida, F. (2001), Goal-directed navigation of an autonomous flying robot using biologically inspired cheap vision. Proceedings of the 32nd International Symposium on Robotics (ISR), 1404-1409.
 40. Iida, F. and Lambrinos, D. (2000). Navigation in an autonomous flying robot by using a biologically inspired visual odometer, Sensor Fusion and Decentralized Control in Robotic System III, Photonics East, Proceeding of SPIE, Vol. 4196, 86-97.
 41. Iida, F., Ayai, H., and Hara, F. (1999). Behavior learning of Face Robot using human natural instruction, Proceedings of 8th IEEE International Workshop on Robot and Human Communication, 171-176.
 42. F. Iida, M. Tabata, and F. Hara (1998). Generating personality character in a Face Robot through interaction with human, Proceedings of 7th IEEE International Workshop on Robot and Human Communication, 481-486.
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Workshop Contributions

43. Iida, F. (2009). Biologically inspired motor control of underactuated robots, Seventh International Workshop on Robot Motion Control (RoMoCo09), (in press).
44. Iida, F. (2007). Toward fast, cheap and “under” control: Dynamic locomotion of Underactuated systems.

International Young Researcher Workshop on Legged Locomotion, MIT, Cambridge MA, USA.

45. Bovet, S., Iida, F. (2007). Discovering a running locomotion strategy through body and neural dynamics, International Conference on Morphological Computation, Venice, Italy.
46. Schmitz, A., Gomez, G., Iida, F., and Pfeifer, R. (2007). On the robustness of simple speed control for a quadruped robot, International Conference on Morphological Computation, Venice, Italy.
47. Iida, F. (2007). Morphological computation in robot behavior control, International Conference on Morphological Computation, March, Venice, Italy.
48. Iida, F. (2006). From locomotion to cognition: Cheap design approach to adaptive behavior, The 50th Anniversary Summit of Artificial Intelligence, Monte Verita, Switzerland.
49. Seyfarth, A., Karguth, A., Iida, F. (2006). JenaWalker II – A robotic platform for investigating human walking and running, Dynamic Walking 2006.
50. Rummel J., Iida, F., and Seyfarth, A. (2006). Adaptive mechanics, The 50th Anniversary Summit of Artificial Intelligence, Monte Verita, Switzerland.
51. Schmitz, A. and Iida, F. (2006). Self-organization of complexity in embodied agents, The 50th Anniversary Summit of Artificial Intelligence, Monte Verita, Switzerland.
52. Iida, F. and Pfeifer, R. (2005). Situated categorization through body dynamics, IROS05 Workshop on Morphology, Control and Passive Dynamics.
53. Ziegler, M., Iida, F., and Pfeifer, R. (2005). “Cheap” underwater locomotion: Morphological properties and behavioral diversity, IROS05 Workshop on Morphology, Control and Passive Dynamics.
54. Rummel J., Seyfarth A., Iida F. (2005). Stable locomotion of feedforward controlled one-legged robot, XXth Congress of the ISB Cleveland, USA, August.
55. Iida, F. (2002). Dynamic locomotion of a biologically inspired quadruped robot, International Workshop on Embodied Artificial Intelligence, October.
56. Iida, F. and Lambrinos, D. (2002). Navigation in an autonomous flying robot by using a biologically inspired visual odometer, International Workshop on Embodied Artificial Intelligence, October 2002.
57. Dravid, R., Paul, C. and Iida, F. (2002). Stumpy: The inverted pendulum driven hopping robot, International Workshop on Embodied Artificial Intelligence, October.
58. Frutiger, D. R., Bongard, J. C. and Iida, F. (2002). Iterative product engineering: Evolutionary robot design, International Workshop on Embodied Artificial Intelligence, October.
59. Iida, F. (2002). Dynamic locomotion of a biologically inspired quadruped robot, SAB '02 Workshop on Robotics as Theoretical Biology.

Other Publications

60. Japanese translation of “Understanding Intelligence”, Pfeifer, R., Scheier C., MIT Press 1999.

61. Iida, F., Hara, F. (2000). Behavior learning of Face Robot based on the characteristics of human instruction, Journal of the Robotics Society of Japan, Vol.18, No.6, 81-88, (in Japanese).
62. Iida, F., Hara, F., Ayai, H. (1999). Face Robot behavior learning based on the characteristics of human instruction, Proceedings of the 4th Robotics Symposia, 38-43, (in Japanese).
63. Iida, F., Hara, F. (1998). Robot behavior learning based on the characteristics of human instruction, Proceedings of the 16th Annual Conference of Robotic Society Japan, 655-656, (in Japanese).

Selected Scientific Activities

Invited Talks, Keynotes, and Colloquia

1. Invited plenary talk at the Seventh International Workshop on Robot Motion Control (RoMoCo09), Czerniejewo, Poland, June 1-3, 2009.
2. Invited seminar talk at Department of Computer Science, University of Vermont, Burlington, VT, USA, March 2009.
3. Invited seminar talk at Department of Electrical and Computer Engineering, Northeastern University, Boston, MA, USA, February 2009.
4. Invited seminar talk at Department of Electrical and Computer Engineering, Northeastern University, Boston, MA, USA, February 2009.
5. Invited seminar talk at Department of Mechanical Engineering, University of South Florida, Tampa, FL, USA, January 2009.
6. Invited seminar talk at the Maersk Mc-Kinney Moller Institute, University of Southern Denmark, Odense, Denmark, January 2009.
7. Invited talk at Swiss National Science Foundation, Bern, Switzerland, January 2009.
8. Invited colloquium talk at Department of Mechanical Engineering, Yale University, New Haven, CT, USA, February 2008.
9. Seminar talk at Boston Dynamics Inc. Waltham MA, USA, December 2007.
10. Invited colloquium talk at Department of Mechanical Engineering, Cornell University, Ithaca, NY, USA, February 2007.
11. Invited colloquium talk at iRobot Corporation, Boston, MA, USA, December 2006.
12. Invited keynote speaker at KI2006 Workshop on Robotics and AI, Bremen, Germany, June 2006.
13. Invited speaker at ALife X Workshop on Morphologies, Motion, and Cognition, Bloomington, USA, June 2006.
14. Invited colloquium talk at Department of Mechanical Engineering, University of Tokyo, Inaba Lab, Tokyo, Japan, March 2006.
15. Invited colloquium talk at Technical University of Berlin, DAI Lab, Berlin, Germany, January 2006.

16. Invited colloquium talk at Department of Computer Science, University of Bremen, Bremen, Germany, January 2006.
 17. Invited colloquium talk at Computer Science and Artificial Intelligence Laboratory, Massachusetts Institute of Technology, Boston, USA, November 2005.
 18. Invited keynote speaker at Tweakfest, Zurich, Switzerland, November 2005.
 19. Invited keynote speaker at the Symposium on Adaptive Motion of Animals and Machines (AMAM05), September 2005, Ilmenau, Germany.
 20. Invited colloquium talk at School of Computer Science, Swiss Federal Institute of Technology, Lausanne (EPFL), August 2005, Lausanne, Switzerland.
 21. Invited colloquium talk at Cognitive Science Lecture Series, University of Vienna, June 2005, Vienna, Austria.
 22. Invited colloquium talk, University of Kaiserslautern, Germany, July 2004.
 23. Invited keynote speaker at Japan Science and Technology Association Forum on Utility of Perturbation, Komatsu, Japan, January 2003.
 24. Invited colloquium talk at Sony CSL Paris, Paris, France, August 2001.
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Contributions to Academic Societies

1. Reviews of journals and conferences: AAAS Science, IEEE Trans. Robotics, IEEE Trans. Man, System and Cybernetics, Autonomous Robots, Journal of the Royal Society, Robotics and Autonomous Systems, Advanced Robotics, Journal of Artificial Life, Neuro Computing, Adaptive Behavior, Journal of Biomechanics, International Conference on Robotics and Automation (ICRA), International Conference on Robotics and Systems (IROS), International Symposium on Intelligent Autonomous Systems (IAS), International Symposium on Robotics Research (ISRR) .
2. Program Committee member of the 2009 Robotics: Science and Systems Conference, Seattle, Washington, USA, 2009.
3. Program Committee member of the 6th International Conference on Informatics in Control, Automation and Robotics (ICINCO 2009), Milan Italy, July 2-5, 2009.
4. Associated Editor of Journal of Intelligent and Robotic Systems, Springer, (January 2009 - Present).
5. Program Committee member of the IEEE Congress on Evolutionary Computation (CEC 2009), Special Session on "Evolutionary Robotics", 2009.
6. Program committee member of the IEEE International Conference on Biomedical Robotics and Biomechatronics (BioRob 2008), October 19-22, 2008, Arizona, USA.
7. Program committee member of the 10th International Conference on Simulation of Adaptive Behavior (SAB'08), Osaka, Japan.
8. Review Editor of Frontiers in Neuroscience, Neurorobotics (November 2007 - Present).

9. General and program chair of the International Conference on Morphological Computation, March 26-28 2007, Venice Italy.
 10. Program committee member of the 20th International Conference on Industrial, Engineering & Other Applications of Applied Intelligent Systems (IEA/AIE-2007), Kyoto Japan.
 11. Program committee member of European Conference of Artificial Life 2007, Lisbon, Portugal.
 12. Program committee member of ALife X Workshop on Morphologies, Motion and Cognition, 2006, Bloomington, USA.
 13. Program committee member of Conference of Intelligent Adaptive Systems 9, 2006, Tokyo, Japan.
 14. Guest editor of Journal of Robotics and Autonomous system, Vol. 54 (8), 2006.
 15. General Chair of The 50th Anniversary Summit of Artificial Intelligence, Monte Verita, Switzerland, 2006.07.14-19.
 16. General Chair of IROS 05 workshop on Morphology, control and passive dynamics, August 1st 2005, Edmonton, Canada.
 17. General Chair of International Dagstuhl Seminar on Embodied Artificial Intelligence, 2003.07.06-11, Schloss Dagstuhl, Germany.
 18. General Chair of International workshop on Embodied Artificial Intelligence, 2002.10.07, Zurich, Switzerland.
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Selected Media Coverage

1. Discover Magazine (27 June 2008).
<http://discovermagazine.com/2008/jun/27-when-robots-live-among-us>
2. The Guardian (18 August 2005).
<http://www.guardian.co.uk/science/2005/aug/18/robots>
3. Thueringer Allgemeine (28. Sept. 2005, in German).
4. UniMagazin Zurich (Nr. 1, 2005, in German).
http://www.unicom.unizh.ch/unimagazin/2005/1/pdf/unimagazin_1_05.pdf
5. UniPublic Zurich about Stumpy Robot in Aichi World Expo(11. 2004, in German).
<http://www.unipublic.unizh.ch/lenya/unipublic/live/campus/uni-news/2004/1448.html>
6. Wochenzeitung about Running Dog Robot (Nr. 21/22, May 2003, in German).
7. Tages-Anzeiger about Stumpy Robot (15. May, 2003, in German).
8. c't magazine about Stumpy Robot (January, 2003, in German).
9. ROBOCON Magazine about Flying Robot Melissa (Nr. 16, 2001, in Japanese).
10. OE Reports about Flying Robot Melissa, (No. 201, 2000).
<http://www.spie.org/web/oer/september/sep00/home.html>

11. Facts Magazin about Flying Robot Melissa, (2000, in German).

Professional Services

Teaching Experiences

1. Invited lecture on “Dynamic Locomotion”, Summer School of Multimedia and Cognitive Systems at the University of Zurich, Switzerland, June 2009.
 2. Invited lecture on “Embodied Artificial Intelligence” at Department of Computer Science, University of Massachusetts, Amherst, MA, USA, April 2007.
 3. Teaching assistant of “Embodied Models of Learning, Development and Memory,” (summer term 2005, University of Zurich)
 4. Teaching assistant of “AI Lectures from Tokyo: An Experiment in Global Teaching,” (winter term 2003, University of Zurich).
 5. Teaching assistant of “Cognitive Science and Strategy: Design Principles for Entrepreneurial Success,” (winter term 2002, University of Zurich).
 6. Teaching assistant of “New Artificial Intelligence,” (winter terms 2000, 2001, 2002, University of Zurich).
 7. Teaching assistant of Mechanical Engineering Exercises, (winter terms 1998, Science University of Tokyo).
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Demonstration and Exhibitions

1. Robot display at the Bionic-Exhibition of the Gotha Museum of Nature, Gotha Germany, July-October 2006.
 2. Robotic demonstration at The 50th Anniversary Summit of Artificial Intelligence, Monte Verita, Switzerland, 2006.07, (3 day live demonstration).
 3. Robotic demonstration at the Adaptive Motion of Animals and Machines Conference, Tech. Univ. Ilmenau, Germany, September 2005, (7 day live demonstration).
 4. Robotic demonstration at the BrainFair, Zurich, Switzerland, May 2005, (The main organizer together with Gabriel Gomez, Rolf Pfeifer, iXs Research Corporation. 15 day live demonstration.)
 5. Robotic demonstration at the Swiss Pavillion in 2005 Aichi World Exposition, Aichi, Japan, March-September 2005, (The main organizer together with Gabriel Gomez, Rolf Pfeifer, iXs Research Corporation. 185 day live demonstration).
 6. Robotic demonstration at the BrainFair, Zurich Main Station, Switzerland, May 2001. (The main organizer together with Max Lungarella, Kojiro Matsushita, Hanspeter Kunz, Rolf Pfeifer, and Starseed Corporation, 4 day live demonstration)
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Selected Research Projects

This section describes a brief summary of my previous and ongoing research projects. For more detailed information, please visit my homepage: <http://people.csail.mit.edu/iida/>



Compass Gait Robot Locomotion in Rough Terrain (Massachusetts Institute of Technology, USA)

The challenge of this project is to develop a controller with which the compass gait robot can walk through a series of steps and gaps on the ground.



Control Optimization of Underactuated Legged Locomotion (Massachusetts Institute of Technology, USA)

(Funded by the Swiss National Science Foundation Prospective Researcher Fellowship No. PBZH2-114461)

This project explores optimization methods of control policy for underactuated locomotion robots in uncertain environment.



Human-like biped locomotion (University of Jena, Germany)

(Funded by the German Research Foundation (DFG, SE1042))

This project is a comparative study of human and robot locomotion, and investigates biped models that can achieve human-like locomotion by using compliant legs.



“Cheap” underwater locomotion (University of Zurich, Switzerland)

(Funded by the Swiss National Science Foundation, Grant No. 200021-109210/1)

Material properties of body influence significantly underwater for the purpose of locomotion. In this project, we investigate how much behavioral diversity can be achieved through the minimum control and actuation.



“Cheap” rapid legged locomotion (University of Zurich, Switzerland)

(Funded by the Swiss National Science Foundation, Grant No. 200021-109210/1)

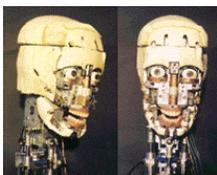
This project investigates musculoskeletal models for rapid four-legged locomotion. The coordination of rigid and elastic materials results in a form of running behavior with simple control architecture.



Biological inspired 3D visual navigation (University of Zurich, Switzerland)

(Funded by the Swiss National Science Foundation, Grant No 2000-061372.00.)

Bees have sophisticated visual sensory systems for the purpose of navigation. By using an omni-directional vision which reproduces the perspective of animals, we attempt to model the cognitive function which enables the learning process of navigation.



Active non-verbal interaction of Face Robot (Science University of Tokyo, Japan)

Face Robot is capable of exhibiting a variety of facial expression by using the artificial muscles. We investigate how the non-verbal communication between human and machine can be possible through facial expression.