

Auke Jan Ijspeert (January 2019)

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EDUCATION

- Oct. 1995 – Oct. 1998* **PhD in Artificial Intelligence**, University of Edinburgh, UK
- Oct. 1990 - March 1995* **Diplôme d'Ingénieur Physicien** (equivalent to BSc, MSc in Physics), Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland.

PROFESSIONAL EXPERIENCE

- April 2016 - now* **Full Professor**, School of Engineering, EPFL, Switzerland.
- Oct. 2009 – March 2016* **Associate Professor**, School of Engineering, EPFL, Switzerland.
- Nov. 2002 – Sept. 2009* **Swiss National Science Foundation Assistant Professor**, School of Computer and Communication Sciences, EPFL, Switzerland.
- Nov. 2002 – Dec. 2017* **Adjunct faculty**, Department of Computer Science, University of Southern California, USA.
- Jan. 2001 – Sept 2009* **External collaborator**, Department of Humanoid Robotics and Computational Neuroscience, ATR (Advanced Telecommunications Research institute), Kyoto, Japan.
- Jan. 2001 – Oct. 2002* **Research Assistant Professor** Department of Computer Science, University of Southern California, USA.
- June 1999 – Dec. 2000* **Postdoctoral researcher** with Prof. M.Arbib and Prof. S.Schaal. University of Southern California, USA.
- Oct. 1998 - March 1999* **Postdoctoral researcher** with Prof. J.Nicoud and Dr. L.Gambardella. EPFL and IDSIA, Switzerland.

POSTDOC, PHD, AND MASTER STUDENT SUPERVISION

Supervisor of 24 postdocs and 29 PhD students (out of which 20 graduated). Several of these are now faculty members or group leaders (NYU, UC Louvain, MPI Tuebingen, Univ. of Teheran, University of Maastricht, and Ecole des Mines de Nantes). Supervisor of more than 70 MSc theses.

AWARDS

1. Second place best conference paper award at the sixth IEEE RAS/EMBS International Conference on Biomedical Robotics and Biomechanics (BIOROB 2016), Singapore, June 2016.
2. The *Industrial Robot* Highly Commended Award for a paper presented at the 18th International Conference on Climbing and Walking Robots (CLAWAR 2015), Hangzhou, September 2015.
3. Best paper award at IEEE RO-MAN 2014, the 23rd IEEE International Symposium on Robot and Human Interactive Communication, 25-29th August 2014 Edinburgh, Scotland, UK
4. Best paper award at the IEEE-RAS International conference on Humanoid Robots (Humanoids 2007), Pittsburgh, December 2007.
5. The *Industrial Robot* Highly Commended Award for a paper presented at the 8th International Conference on Climbing and Walking Robots (CLAWAR 2005), London, September 2005.

6. Overall Best Paper Award (out of 1,172 submitted, 689 accepted papers) at the IEEE International Conference on Robotics and Automation (ICRA 2002), Washington D.C., May 2002.
7. Young Professorship award from the Swiss National Science Foundation (2002-2006).
8. Young Researcher scholarship from the Swiss National Science Foundation (1999-2000).
9. Marie Curie Scholarship from the European Commission (1997-1998).
10. Young Researcher scholarship from the Swiss National Science Foundation (1995-1996).

INVITED KEYNOTE/PLENARY LECTURES

1. IEEE International Conference on Biomedical Robotics and Biomechatronics (BIROB2018). TU Twente, Netherlands. 26-29 August 2018.
2. 15th International Conference on the Simulation of Adaptive Behavior (SAB2018). Frankfurt, Germany. 14-17 August 2018.
3. International Symposium on Adaptive Motion of Animals and Machines, AMAM 2017. Sapporo, Japan. June 26 - 30, 2017.
4. 22nd International Workshop on Robotics in Alpe-Adria-Danube Region, RAAD2013, Portorož, Slovenia, Slovenia, October 26th - 28th, 2013
5. First Physics of biological and complex systems conference (PBCS 2013), Göttingen, Germany, October 19, 2013
6. Septième Conférence Internationale Francophone d'Automatique (CIFA 2012), Grenoble France, July 5, 2012
7. 11th IEEE-RAS International Conference on Humanoid Robots (Humanoids 2011), Bled, Slovenia, October 26th - 28th, 2011
8. EUSFLAT2011 7th conference of the European Society for Fuzzy Logic and Technology (EUSFLAT-2011), Aix Les Bains, July 20, 2011
9. 4th International Symposium on Aero-Aqua Bio-Mechanisms (ISABMEC2009), Shanghai, Aug29-Sept2 2009
10. Society for Experimental Biology's Meeting, session 'Integration of Active and Passive Control Mechanisms in Locomotion, Glasgow, UK June 28-July 1, 2009
11. RoboCup International Symposium 2009, TU Graz, Austria, June 30, 2009
12. Journées Nationales de la Recherche en Robotique 2007, Obernai, France, October 9-12, 2007
13. Twelfth Portuguese Conference on Artificial Intelligence, Covilha, Portugal, December 5-8 2005
14. The 3rd International Symposium on Adaptive Motion in Animals and Machines (AMAM2005), Technical University of Ilmenau, Germany, September 25-30 2005
15. *Evolutionary approaches to articulated robot locomotion using neural oscillators*, International Conference on Evolvable Systems (ICES2005), Barcelona, Spain, September 12 2005
16. 49th Internationales Wissenschaftliches Kolloquium (IWK49), Technical University of Ilmenau, Germany, 27 September 2004
17. Symposium on Evolvability & Interaction, Queen Mary University of London, UK, 8-10 October 2003
18. Human Centered Robotic Systems Symposium (HCRS 2002), Karlsruhe, Germany, Dec. 2002

HIGH-IMPACT GENERAL PUBLIC PRESENTATIONS

1. [*Animal Locomotion - Learning from Robots*](#). WORLDS.MINDS MOBILITY. Zurich May 9 2018.
2. *Investigating animal locomotion using biorobots*. TED Global Conference. Geneva December 8. 2015. https://www.ted.com/talks/auke_ijspeert_a_robot_that_runs_and_swims_like_a_salamander

CONFERENCE ORGANIZATION AND REVIEWING

Program Committee chairman (or main organizer) of 9 international conferences, Program Committee member of over 60 international conferences, Editor or guest editor for 10 journals, Member of the Board of Reviewing Editors of Science, Reviewer for over 30 journals, Member of the evaluation committees for over 50 PhD theses.

PUBLICATIONS

Over 90 journal articles, 4 edited books, over 130 articles in international conferences (6 of which received distinctions). Publications in high-impact journals according to the ISI Journal Citation Report: Science, Nature, Nature Communications, Science Translational Medicine, Current Biology, Nature Scientific Reports, as well as robotics journals with the two highest impact factors (IEEE Transactions in Robotics, and Int. Journal of Robotics Research).

H-Index: 63, Total number of citations: 16116, Citations per year (2018): 1597 (Google Scholar)

See <https://scholar.google.ch/citations?user=ViYx9vMAAAAJ&hl=en>

JOURNAL ARTICLES

1. Nyakatura, J. A., Melo, K., Horvat, T., Karakasiliotis, K., Allen, V. R., Andikfar, A., Andrada, E., Arnold, P., Lauströer, J. Hutchinson, J.R., Fischer, M.S., ljspeert, A. J.. Reverse-engineering the locomotion of a stem amniote. **Nature**, 565(7739), 351. 2019
2. Eckert, P., & ljspeert, A. J.. Benchmarking Agility For Multilegged Terrestrial Robots. **IEEE Transactions on Robotics**, 1–7. 2019.
3. Van der Noot, N., ljspeert, A. J., & Ronsse, R.. Neuromuscular model achieving speed control and steering with a 3D bipedal walker. **Autonomous Robots**. 2018.
4. Van der Noot, N., ljspeert, A. J., & Ronsse, R.. Bio-inspired controller achieving forward speed modulation with a 3D bipedal walker. **International Journal of Robotics Research**, 37(1), 168–196. 2018.
5. Spröwitz, A. T., Tuleu, A., Ajalloeian, M., Vespignani, M., Möckel, R., Eckert, P., D’Haene, M., Degraeve, J., Nordmann, A., Schrauwen, B., Steil, J., ljspeert, A. J.. Oncilla robot: A versatile open-source quadruped research robot with compliant pantograph legs. **Frontiers Robotics AI**, 5(JUN). 2018.
6. Petric, T., Gams, A., Colasanto, L., ljspeert, A. J., & Ude, A.. Accelerated Sensorimotor Learning of Compliant Movement Primitives. **IEEE Transactions on Robotics**. 34(6), 1636–1642, 2018.
7. Mutlu, M., Hauser, S., Bernardino, A., & ljspeert, A. J. . Effects of passive and active joint compliance in quadrupedal locomotion. **Advanced Robotics**. 32(15), 809–824, 2018.
8. Hauser, S., Mutlu, M., Banzet, P., & ljspeert, A. J.. Compliant universal grippers as adaptive feet in legged robots. **Advanced Robotics**. 32(15), 825–836, 2018.
9. Faraji, S., Wu, A. R., & ljspeert, A. J.. A simple model of mechanical effects to estimate metabolic cost of human walking. **Scientific Reports**, 8(1), 2018.
10. Faraji, S., & ljspeert, A. J.. Modeling Robot Geometries Like Molecules, Application to Fast Multicontact Posture Planning for Humanoids. **IEEE Robotics and Automation Letters**, 3(1), 289–296. 2018.
11. A. R. Wu, F. Dzeladini, T. J. H. Brug, F. Tamburella and N. L. Tagliamonte et al. An Adaptive Neuromuscular Controller for Assistive Lower-Limb Exoskeletons: A Preliminary Study on Subjects with Spinal Cord Injury, in **Frontiers In Neurobotics**, vol. 11, p. 30, 2017.
12. Wu, A. R., Dzeladini, F., Brug, T. J. H., Tamburella, F., Tagliamonte, N. L., van Asseldonk, E., ... ljspeert, A. J.. A versatile neuromuscular exoskeleton controller for gait assistance: A preliminary study on spinal cord injury patients. **Biosystems and Biorobotics**, 16, 163–167, 2017.

13. Ramdya, P., Thandiackal, R., Cherney, R., Asselborn, T., Benton, R., Ijspeert, A. J., & Floreano, D.. Climbing favours the tripod gait over alternative faster insect gaits. **Nature communications**, 8. 2017.
14. S. Pouya, M. Khodabakhsh, A. Sprowitz and A. Ijspeert. Spinal joint compliance and actuation in a simulated bounding quadruped robot, in **Autonomous Robots**, vol. 41, num. 2, p. 437-452, 2017.
15. Petric, T., Simpson, C. S., Ude, A., & Ijspeert, A. J.. Hammering does not fit Fitts' Law. **Frontiers in Computational Neuroscience**, 11, 45. 2017.
16. Minassian, K., Hofstoetter, U. S., Dzeladini, F., Guertin, P. A., & Ijspeert, A.. The Human Central Pattern Generator for Locomotion: Does It Exist and Contribute to Walking?. **The Neuroscientist**, 1073858417699790. 2017.
17. Mignardot, J.B., Le Goff, C.G., van den Brand, R., Capogrosso, M., Fumeaux, N., Vallery, H., Anil, S., Lanini, J., Fodor, I., Eberle, G., Ijspeert, A., Schurch B., Curt A., Carda S., Bloch J., von Zitzewitz J., and Courtine G. A multidirectional gravity-assist algorithm that enhances locomotor control in patients with stroke or spinal cord injury. **Science Translational Medicine**, 9(399), 2017.
18. Lanini, J., Duburcq, A., Razavi, H., Le Goff, C. G., & Ijspeert, A. J.. Interactive locomotion: Investigation and modeling of physically-paired humans while walking. **PLoS ONE**, 12(9). 2017.
19. Lanini, J., Duburcq, A., & Ijspeert, A.. Interactive locomotion of mechanically coupled bipedal agents: Modeling and experiments. **Biosystems and Biorobotics**, 15, 229–234. 2017
20. Khoramshahi, M., Nasiri, R., Shushtari, M., Ijspeert, A. J., & Ahmadabadi, M. N.. Adaptive Natural Oscillator to exploit natural dynamics for energy efficiency. **Robotics and Autonomous Systems**, 97, 51–60. 2017.
21. Horvat, T., Melo, K., & Ijspeert, A. J.. Spine Controller for a Sprawling Posture Robot. **IEEE Robotics and Automation Letters**, 2(2), 1195-1202. 2017.
22. Hauser, S., Robertson, M., Ijspeert, A., & Paik, J.. JammJoint: A Variable Stiffness Device Based on Granular Jamming for Wearable Joint Support. **IEEE Robotics and Automation Letters**, 2(2), 849-855. 2017.
23. S. Faraji and A. Ijspeert. 3LP: a linear 3D-walking model including torso and swing dynamics, in **The International Journal of Robotics Research**, vol. 36, num. 4, p. 436 - 455, 2017.
24. Faraji, S., & Ijspeert, A. J.. Singularity-Tolerant Inverse Kinematics for Bipedal Robots: An Efficient Use of Computational Power to Reduce Energy Consumption. **IEEE Robotics and Automation Letters**, 2(2), 1132-1139. 2017.
25. Dzeladini, F., Grappe, A., Simpson, C., Wu, A. R., & Ijspeert, A.. Muscle Activation Variability Is Inversely Correlated with Walking Speed. **Biosystems and Biorobotics**, 15, 1025–1029. 2017
26. Brug, T. J. H., Dzeladini, F., Wu, A. R., & Ijspeert, A. J.. Combining a 3D Reflex Based Neuromuscular Model with a State Estimator Based on Central Pattern Generators. **Biosystems and Biorobotics**, 15, 633–637. 2017.
27. Bayat, B., Crasta, N., Crespi, A., Pascoal, A. M., & Ijspeert, A.. Environmental monitoring using autonomous vehicles: a survey of recent searching techniques. **Current Opinion in Biotechnology**, 45, 76-84. 2017.
28. Vitiello, N., Ijspeert, A. J., & Schaal, S.. Bioinspired Motor Control for Articulated Robots [From the Guest Editors]. **IEEE Robotics Automation Magazine**, 23(1), 20–21. 2016
29. Karakasiliotis, K., R. Thandiackal, K. Melo, T. Horvat, N. K. Mahabadi, S. Tsitkov, J. M. Cabelguen, and A. J. Ijspeert. "From cineradiography to biorobots: an approach for designing robots to emulate and study animal locomotion." **Journal of The Royal Society Interface** 13, no. 119 (2016):
30. A. Gams, J. Van Den Kieboom, F. Dzeladini, A. Ude and A. J. Ijspeert. Real-time full body motion imitation on the COMAN humanoid robot, **Robotica**, vol. 33, num. 5, p. 1049-1061, 2015.

31. L. Righetti, A. Nylen, K. Rosander and A. J. [Ijspeert](#). Kinematic and gait similarities between crawling human infants and other quadruped mammals, *Frontiers In Neurology*, vol. 6, p. UNSP 17, 2015.
32. D. Ryczko, J. Knüsel, A. Crespi, S. Lamarque, A. Mathou, A.J. [Ijspeert](#), J.-M. Cabelguen. Flexibility of the axial central pattern generator network for locomotion in the salamander, *Journal of Neurophysiology*, vol. 113, num. 6, p. 1921-1940, 2015.
33. M. Porez, F. Boyer and A. J. [Ijspeert](#). Improved Lighthill fish swimming model for bio-inspired robots: Modeling, computational aspects and experimental comparisons, *International Journal Of Robotics Research*, vol. 33, num. 10, p. 1322-1341, 2014
34. A. [Ijspeert](#). Biorobotics: Using robots to emulate and investigate agile animal locomotion, *Science*, vol. 346, num. 6206, p. 196-203, 2014.
35. D. Floreano, A. [Ijspeert](#) and S. Schaal. Robotics and Neuroscience, *Current Biology*, vol. 24, p. R910-R920, 2014.
36. A. Spröwitz, R. Möckel, M. Vespignani, S. Bonardi and A. [Ijspeert](#). Roombots: A Hardware Perspective on 3D Self-Reconfiguration and Locomotion with a Homogeneous Modular Robot, *Robotics and Autonomous Systems*, Volume 62, Issue 7, Pages 1016–1033, 2014.
37. M. D. McDonnell, K. Boahen, A. [Ijspeert](#) and T. J. Sejnowski. Engineering Intelligent Electronic Systems Based on Computational Neuroscience, in *Proceedings of the IEEE*, vol. 102, num. 5, p. 646-651, 2014.
38. F. Dzeladini, J. Van Den Kieboom and A. [Ijspeert](#). The contribution of a central pattern generator in a reflex-based neuromuscular model, in *Frontiers In Human Neuroscience*, vol. 8, 2014.
39. A. Gams, B. Nemeč, A. J. [Ijspeert](#) and A. Ude. Coupling Movement Primitives: Interaction With the Environment and Bimanual Tasks, in *IEEE Transactions on Robotics*, vol. 30, num. 4, p. 816-830, 2014.
40. A. Spröwitz, M. Ajallooeian, A. Tuleu and A. [Ijspeert](#). Kinematic primitives for walking and trotting gaits of a quadruped robot with compliant legs, in *Frontiers in Computational Neuroscience*, vol. 8, num. 27, p. 1-13, 2014.
41. M. Khoramshahi, H. J. Bidgoly, S. Shafiee, A. Asaei and A. J. [Ijspeert](#) et al. Piecewise linear spine for speed-energy efficiency trade-off in quadruped robots, in *Robotics And Autonomous Systems*, vol. 61, num. 12, p. 1350-1359, 2013.
42. A. Bicanski, D. Ryczko, J.-M. Cabelguen and A. J. [Ijspeert](#). From lamprey to salamander: an exploratory modeling study on the architecture of the spinal locomotor networks in the salamander, in *Biological Cybernetics*, vol. 107, num. 5, p. 565-587, 2013.
43. A. Bicanski, D. Ryczko, J. Knuesel, N. Harischandra and V. Charrier et al. Decoding the mechanisms of gait generation in salamanders by combining neurobiology, modeling and robotics, in *Biological Cybernetics*, vol. 107, num. 5, p. 545-564, 2013.
44. A. J. [Ijspeert](#), S. Grillner and P. Dario. Foreword for the special issue on Lamprey and Salamander Robots and the Central Nervous System, in *Biological Cybernetics*, vol. 107, num. 5, p. 495-496, 2013.
45. M. Sitti, A. Menciassi, A. J. [Ijspeert](#), K. H. Low and S. Kim. Survey and Introduction to the Focused Section on Bio-Inspired Mechatronics, in *IEEE-ASME Transactions On Mechatronics*, vol. 18, num. 2, p. 409-418, 2013.
46. M. Ajallooeian, J. van den Kieboom, A. Mukovskiy, M. Giese and A. [Ijspeert](#). A General Family of Morphed Nonlinear Phase Oscillators with Arbitrary Limit Cycle Shape, *Physica D: Nonlinear Phenomena*, Vol. 263, 15 November, p. 41–56, 2013.
47. J. Knüsel, A. Bicanski, D. Ryczko, J.-M. Cabelguen and A. [Ijspeert](#). A Salamander's Flexible Spinal Network for Locomotion, Modeled at Two Levels of Abstraction, in *Integrative and Comparative Biology*, 53(2):269-82, 2013.
48. R. Ronsse, D. Rossi, S. M. Maria, N. Vitiello and T. Lenzi et al. Real-Time Estimate of Velocity and Acceleration of Quasi-Periodic Signals Using Adaptive Oscillators, in *IEEE Transactions on Robotics*, vol. 29, num. 3, p. 783-791, 2013.

49. A. Crespi, K. Karakasiliotis, A. Guignard and A. J. [Ijspeert](#). Salamandra Robotica II: An Amphibious Robot to Study Salamander-Like Swimming and Walking Gaits, in *IEEE Transactions on Robotics*, vol. 29, num. 2, p. 308-320, 2013.
50. F. L. Moro, A. Sprowitz, A. Tuleu, M. Vespignani and N. G. Tsagarakis et al. Horse-like walking, trotting, and galloping derived from kinematic Motion Primitives (kMPs) and their application to walk/trot transitions in a compliant quadruped robot, in *Biological Cybernetics*, vol. 107, num. 3, p. 309--320, 2013.
51. A. J. [Ijspeert](#), J. Nakanishi, H. Hoffmann, P. Pastor and S. Schaal. Dynamical Movement Primitives: Learning Attractor Models for Motor Behaviors, in *Neural Computation*, vol. 25, num. 2, p. 328-373, 2013. **“Highly cited label” on Web of Science: “As of May/June 2014, this highly cited paper received enough citations to place it in the top 1% of its academic field based on a highly cited threshold for the field and publication year”.**
52. A. Sproewitz, A. Tuleu, M. Vespignani, M. Ajallooeian and E. Badri et al. Towards Dynamic Trot Gait Locomotion---Design, Control and Experiments with Cheetah-cub, a Compliant Quadruped Robot, in *International Journal of Robotics Research*, vol. 32, num. 8, p. 932 - 950, 2013.
53. K. Karakasiliotis, N. Schilling, J.-M. Cabelguen and A. [Ijspeert](#). Where are we in understanding salamander locomotion: biological and robotic perspectives on kinematics, in *Biological Cybernetics*, 2012.
54. H. Hauser, A. J. [Ijspeert](#), R. M. Fuchslin, R. Pfeifer and W. Maass. The role of feedback in morphological computation with compliant bodies, in *Biological Cybernetics*, vol. 106, num. 10, p. 595-613, 2012.
55. T. Petric, A. Gams, A. J. [Ijspeert](#) and L. Zlajpah. On-line frequency adaptation and movement imitation for rhythmic robotic tasks, in *International Journal Of Robotics Research*, vol. 30, p. 1775-1788, 2011.
56. H. Hauser, A. J. [Ijspeert](#), R. M. Fuchslin, R. Pfeifer and W. Maass. Towards a theoretical foundation for morphological computation with compliant bodies, in *Biological Cybernetics*, vol. 105, p. 355-370, 2011.
57. S. De Rossi, N. Vitiello, L. Tommaso, R. Ronsse, B. Koopman, A. Persichetti, F. Vecchi, A.J. [Ijspeert](#), He. van der Kooij, M.C. Carrozza. Sensing pressure distribution on a lower-limb exoskeleton physical human-machine interface. *Sensors*. 11(1), 207-227, 2011.
58. R. Ronsse, N. Vitiello, T. Lenzi, J. van den Kieboom, M. C. Carrozza, A. J. [Ijspeert](#) Human-robot synchrony: flexible assistance using adaptive oscillators. *IEEE Transactions on Biomedical Engineering* vol. 58, p. 1001-1012, 2011.
59. A. Akbarimajd, M. Mili, and A. J. [Ijspeert](#). Analogy between Juggling and Hopping: Active object manipulation approach. *Advanced Robotics*. vol. 25, p. 1793-1816, 2011.
60. Renaud Ronsse, Tommaso Lenzi, Nicola Vitiello, Bram Koopman, Edwin van Asseldonk, Stefano Marco Maria De Rossi, Jesse van den Kieboom, Herman van der Kooij, Maria Chiara Carrozza and Auke Jan [Ijspeert](#), Oscillator-based assistance of cyclical movements: model-based and model-free approaches, *Medical and Biological Engineering and Computing*, 2011, DOI: 10.1007/s11517-011-0816-1
61. N. Harischandra, J. Knüsel, A. Kozlov, A. Bicanski and J.-M. Cabelguen et al. Sensory feedback plays a significant role in generating walking gait and in gait transition in salamanders: a simulation study, in *Frontiers in Neurorobotics*, vol. 5, num. 3, p. 1-13, 2011.
62. H. Hauser, G. Neumann, A. J. [Ijspeert](#) and W. Maass. Biologically inspired kinematic synergies enable linear balance control of a humanoid robot, in *Biological Cybernetics*, 104:235-259, 2011.
63. Dégallier, L. Righetti, S. Gay and A. [Ijspeert](#). Toward simple control for complex, autonomous robotic applications: Combining discrete and rhythmic motor primitives. *Autonomous Robots*. 31:155–181, 2011.
64. A. J. [Ijspeert](#), P. Dario and S. Grillner. Guest editorial: special issue on control of locomotion—from animals to robots, in *Autonomous Robots*, vol. 28, num. 3, p. 245-246, 2010.

65. D. Ryczko, V. Charrier, A. Ijspeert, and J.-M. Cabelguen. Segmental oscillators in axial motor circuits of the salamander: distribution and bursting mechanisms. *Journal of Neurophysiology*. 104:2677-2692, 2010.
66. S. Dégallier and A. Ijspeert. Modeling Discrete and Rhythmic Movements through Motor Primitives: A Review, *Biological Cybernetics*, 103 (4), 319-338, 2010.
67. A. Spröwitz, S. Pouya, S. Bonardi, J. van den Kieboom, R. Möckel, A. Billard, P. Dillenbourg, A.J. Ijspeert. Roombots: Reconfigurable Robots for Adaptive Furniture, *IEEE Computational Intelligence Magazine*, 5(3): 20-32, 2010.
68. L. Righetti, J. Buchli and A. J. Ijspeert. Adaptive Frequency Oscillators and Applications, *The Open Cybernetics and Systemics Journal*, vol. 3, p. 64-69, 2009.
69. Andani. M.E., Bahrami F., Maralani P.J., and Ijspeert A.J.,. MODEM: a multi-agent hierarchical structure to model the human motor control system. *Biological Cybernetics*, 2009.
70. Gams A., Ijspeert A.J., Schaal S., and Lenarcic J.. On-line learning and modulation of periodic movements with nonlinear dynamical systems. *Autonomous Robots*, 27(1):3-23, July 2009.
71. Nandi G.C., Ijspeert A.J., Chakraborty P., Nandi A., Development of Adaptive Modular Active Leg (AMAL) using bipedal robotics technology, *Robotics and Autonomous Systems* 57 (6-7), pp. 603-616, 2009.
72. J. P. Desai, A. Menciassi and A. Ijspeert. Guest Editorial to the Special Letters Issue on Biomedical Robotics and Biomechatronics-BioRob, in *IEEE Transactions On Biomedical Engineering*, vol. 56, p. 2293-2294, 2009.
73. Ijspeert A.J., Central pattern generators for locomotion control in animals and robots: a review. *Neural Networks*, 21(4):642-653, 2008. **Highest cited article in Neural Networks in the period 2006-2010. Also "Highly cited label" on Web of Science: "As of May/June 2014, this highly cited paper received enough citations to place it in the top 1% of its academic field based on a highly cited threshold for the field and publication year".**
74. Pretto I., Ruffieux S., Menon C., Ijspeert A.J., and Cocuzza, S.. A point-wise model of adhesion suitable for real-time applications of bio-inspired climbing robot. *Journal of Bionic Engineering*, 5:98-105, 2008.
75. Buchli J. and Ijspeert A.J.. Self-organized adaptive legged locomotion in a compliant quadruped robot. *Autonomous Robots*, 25(4):331-347, 2008.
76. Buchli J., Righetti L., and Ijspeert A.J.. Frequency Analysis with a Nonlinear Dynamical System, *Physica D*, 237: 1705–1718, 2008.
77. Sproewitz A., Moeckel R., Maye J., Ijspeert A.J., Learning to move in modular robots using central pattern generators and online optimization. *International Journal of Robotics Research*. 27(3-4):423-443, 2008
78. Crespi A., Lachat D., Pasquier A., Ijspeert A.J. Controlling swimming and crawling in a fish robot using a central pattern generator. *Autonomous Robots*, 25(1-2), pp 3-13, 2008.
79. Crespi A. and Ijspeert A.J.. Online optimization of swimming and crawling in an amphibious snake robot. *IEEE Transactions on Robotics*, 24(1), 2008 pp 75-87.
80. Chevallier S., Ijspeert A.J., Ryczko D., Nagy F. and Cabelguen J.-M., Organisation of the spinal central pattern generators for locomotion in the salamander: biology and modelling. *Brain Research Reviews*. 57(1), 2008, pp 147-161.
81. Tsakarakis N.G., Metta G., Sandini G., Vernon D., Beira R., Becchi F., Righetti L., Santos-Victor J., Ijspeert A.J., Carrozza M.C., and Caldwell D.G.. iCub - The Design and Realization of an Open Humanoid Platform for Cognitive and Neuroscience Research. *Journal of Advanced Robotics*, 21(10), 2007, pp 1151-1175.
82. Ijspeert A.J., Crespi A., Ryczko D., and Cabelguen J.M.. From swimming to walking with a salamander robot driven by a spinal cord model. *Science*, 315(5817):1416-1420, 2007.

83. Sommacal L., Melchior P., Dossat A., Petit J., Cabelguen J.M., Oustaloup A. and Ijspeert A.J., Improvement of the Muscle Fractional Multimodel for Low Rate Stimulation, ***Biomedical Signal Processing & Control***, 2 (3), July 2007, pp 226-233.
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