

Ezequiel A. Di Paolo – List of Publications

March, 2011

Journal Papers, Refereed

- [1] Di Paolo, E. A. (submitted) Life as frustrated suicide: Overcoming vestigial dualisms in autopoiesis, *Constructivist Foundations*.
- [2] Froese, T. and Di Paolo, E. A. (2011). The enactive approach: Theoretical sketches from cell to society. *Pragmatics and Cognition*, forthcoming.
- [3] Hu, X-B. Wang, M., Leeson, M. S, Hines, E. L., and Di Paolo, E. A. (2011). A deterministic ripple-spreading model for complex networks, *Physical Review E*, forthcoming.
- [4] Egbert, M., Barandiaran, X. and Di Paolo, E. A. (2010). A minimal model of metabolism-based chemotaxis, *PLoS Computational Biology*, 6(12): e1001004.
- [5] Hu, X-B. and Di Paolo, E. A. (2010) A ripple-spreading genetic algorithm for the aircraft sequencing problem, *Evolutionary Computation*, 19(1): 77 – 106, doi:10.1162/EVCO_a.00011.
- [6] De Jaegher, H., Di Paolo, E. A., and Gallagher, S. (2010). Can social interaction constitute social cognition? *Trends in Cognitive Sciences*, 14(10), 441 – 447.
- [7] Husbands, P., Philippides, A., Vargas, P., Buckley, C. L., Fine, P., Di Paolo, E. A. and O’Shea (2010). Spatial, temporal and modulatory factors affecting GasNet evolvability, *Complexity*, 16(2): 35 – 44.
- [8] Bullock, S., Barnett, L., Di Paolo, E. A. (2010). Spatial embedding and the structure of complex networks, *Complexity*, 16(2): 20 – 28.
- [9] Di Paolo, E. A. (2010). Robotics inspired in the organism. *Intellectica*, 53-54: 129 – 162.
- [10] Froese, T. and Di Paolo, E. A. (2010) Modeling social interaction as perceptual crossing: An investigation into the dynamics of the interaction process, *Connection Science*, 22(1): 43 – 68.
- [11] Froese, T. and Di Paolo, E. A. (2009) Sociality and the lifemind continuity thesis, *Phenomenology and the Cognitive Sciences*, 8(4), 439 – 463
- [12] Egbert, M., and Di Paolo, E. A. (2009). Adding behavior to autopoiesis: A foray in computational chemo-ethology. *Adaptive Behavior*, 17(5), 387 – 401.
- [13] Barandian, X., Di Paolo, E. A., and Rohde, M. (2009). Defining agency. *Adaptive Behavior*, 17(5), 367 – 386.
- [14] Di Paolo, E. A. (2009). Extended life *Topoi*, 28, 9 – 21, doi:10.1007/s11245-008-9042-3.
- [15] Hu, X-B., Di Paolo, E. A. (2009). An efficient genetic algorithm with uniform crossover for air traffic control, *Computers and Operations Research*, 36 245 – 259, doi:10.1016/j.cor.2007.09.005.
- [16] Vickerstaff, R., and Di Paolo, E. A. (2008). Regarding compass response functions for modeling path integration. *Adaptive Behavior*, 16(4), 275 – 276.
- [17] Di Paolo, E. A. (2008). A mind of many. *Constructivist Foundations*, 3(2), 89 – 91.
- [18] Hu, X-B., Di Paolo, E. A. (2008). A binary representation based genetic algorithm for aircraft arrival sequencing and scheduling, *IEEE Transactions on Intelligent Transportation Systems*, 9, 301 – 310.
- [19] Hu, X-B., Di Paolo, E. A. and Wu S. F. (2008) A comprehensive fuzzy-rule-based self-adaptive genetic algorithm, *Journal of Intelligent Computing and Cybernetics*, 1, 94 – 109.

- [20] Di Paolo, E. A. and Iizuka, H. (2008). How (not) to model autonomous behaviour, *BioSystems*, **91**, 409 – 423.
- [21] Di Paolo, E. A., Rohde, M. and Iizuka, H. (2008). Sensitivity to social contingency or stability of interaction? Modelling the dynamics of perceptual crossing. *New Ideas in Psychology* Special issue on Dynamics and Psychology, **26**, 278 – 294, doi:10.1016/j.newideapsych.2007.07.006.
- [22] McDonald-Gibson, J., Di Paolo, E. A., Dyke, J. G. and Harvey, I. (2008). Environmental regulation can arise under minimal assumptions. *Journal of Theoretical Biology*, **251(4)**, 653 – 666, doi:10.1016/j.jtbi.2007.12.016.
- [23] Barnett, L., Di Paolo, E. A., Bullock, S. (2007). Spatially embedded random networks *Physical Review E*, **76**, 056115.
- [24] De Jaegher, H. and Di Paolo, E. A. (2007). Participatory sense-making: An enactive approach to social cognition, *Phenomenology and the Cognitive Sciences*, **6(4)**, 485 – 507.
- [25] Iizuka, H. and Di Paolo, E. A. (2007). Toward Spinozist robotics: Exploring the minimal dynamics of behavioural preference. *Adaptive Behavior*, **15(4)**, 359 – 376.
- [26] Hu, X-B., Di Paolo, E. A., Chen, W-H. (2007). Multi-airport capacity management: Genetic algorithm with receding horizon. *IEEE Transactions on Intelligent Transportation Systems*, **8(2)**, 254 – 263.
- [27] Di Paolo, E. A. (2005). Autopoiesis, adaptivity, teleology, agency. *Phenomenology and the Cognitive Sciences*, **4(4)**, 429 – 452.
- [28] Macinnes, I. and Di Paolo, E. A. (2006). The advantages of evolving perceptual cues. *Adaptive Behavior* **14(2)**, 147 – 156.
- [29] Silver, M., and Di Paolo, E. A. (2006). Spatial factors favour the evolution of niche construction. *Theoretical Population Biology*, **70(4)**, 387 – 400.
- [30] Suzuki, M., Floreano, D., and Di Paolo, E. A. (2005). Constraints on body movement during visual development affect the behavior of evolutionary robots. *Neural Networks*, **18(5/6)**, 657 – 666.
- [31] Vickerstaff, R., and Di Paolo, E. A. (2005). Building neural models of path integration. *Journal of Experimental Biology*, **208**, 3349 – 3366.
- [32] Di Paolo, E. A. (2004). Unbinding biological autonomy: Francisco Varela’s contributions to artificial life. *Artificial Life*, **10/3**, 231 – 234.
- [33] Di Paolo, E. A., and Harvey, I. (2004). Decisions and noise: The scope of evolutionary synthesis and dynamical analysis. *Adaptive Behavior*, **11, 4**, 284 – 288.
- [34] Harvey, I. Di Paolo, E. A., Tuci, E. and Wood, R. (2004). Evolutionary robotics: A new scientific tool for studying cognition. *Artificial Life* **11 1/2**, 79 – 98.
- [35] Rohlfshagen, P. and Di Paolo, E. A. (2004). The topological origin of rhythm in asynchronous random Boolean networks. *BioSystems*, **73**, 141 – 152.
- [36] Di Paolo, E. A. (2003) Evolving spike-timing dependent plasticity for single-trial learning in robots. *Philosophical Transactions of the Royal Society of London A*, **361**, 2299 – 2319.
- [37] Di Paolo, E. A. (2002). Plastic mechanisms, multiple timescales, and lifetime adaptation. *Adaptive Behavior*, **10, 3/4**, 141 – 142.
- [38] Di Paolo, E. A. (2002) Spike timing dependent plasticity for evolved robots. *Adaptive Behavior*, **10(3/4)**, 243 – 263.
- [39] Wheeler, M., Bullock, S., Di Paolo, E., Noble, J., Bedau, M., Husbands, P., Kirby, S. and Seth, A. (2002) The view from elsewhere: Perspectives on ALife modelling. *Artificial Life*, **8(2)**, 87 – 100.
- [40] Di Paolo, E. A. (2001) Rhythmic and non-rhythmic attractors in asynchronous random Boolean networks. *BioSystems*, **59(3)**, 185 – 195.
- [41] Di Paolo, E. A. (2000) Ecological symmetry breaking can favour the evolution of altruism in an action-response game. *Journal of Theoretical Biology*, **203**, 135 – 152.

- [42] Di Paolo, E. A. (2000) Behavioral coordination, structural congruence and entrainment in a simulation of acoustically coupled agents. *Adaptive Behavior*, **8:1**, 25 – 46.
- [43] Di Paolo, E. A. (1997) An investigation into the evolution of communication. *Adaptive Behavior*, **6**, 285 – 324.

Conference Papers, Refereed

- [1] Kyselo, M. and Di Paolo, E. A. (2010) Through the Enactive Eye Locked-in Syndrome as a Challenge for Embodied Cognition, 10th Biannual Conference of the German Society for Cognitive Science, KogWis 2010, Postdam, October 3 - 6 , 2010.
- [2] Egbert, M., Barandiaran, X and Di Paolo, E. A. (2010). Behavioral Metabolism: Metabolism based behavior enables new forms of adaptation and evolution Artificial Life XII, The 12th International Conference on the Synthesis and Simulation of Living Systems, 19-23 August, 2010, Odense, Denmark.
- [3] Hu, X-B, Wang, M., Leeson, M. S., Hines, E. L. and Di Paolo, E. A. (2010) A Review on Ripple-Spreading Genetic Algorithms for Combinatorial Optimization Problems, In ICCI 2010, The 9th IEEE International Conference on Cognitive Informatics, July 7-9, 2010, Tsinghua University, Beijing, China.
- [4] Barandiaran, X. and Di Paolo, E. A. (2010) Homeostatic plasticity in robots. 4th International Conference on Cognitive Systems. CogSys, 2010, ETH Zurich, Switzerland, Jan 27 – 28, 2010.
- [5] Froese, T. and Di Paolo, E. A. (2009) Toward minimally social behavior: Social psychology meets evolutionary robotics, in Kampis, G., Karsai, I and Szathmary, E. (eds) Advances in Artificial Life Proceedings of the 10th European Conference on Artificial Life, ECAL09, Budapest, September 13-16, 2009, LNAI 5777, Springer Verlag, pp. 420 – 427.
- [6] Manicka, S. and Di Paolo, E. A. (2009) Local ultrastability in a real system based on programmable springs in Kampis, G., Karsai, I and Szathmary, E. (eds) Advances in Artificial Life Proceedings of the 10th European Conference on Artificial Life, ECAL09, Budapest, September 13-16, 2009, LNAI 5777, Springer Verlag, pp. 87 – 94.
- [7] Egbert, M., Di Paolo, E. A. and Barandiaran, X. (2009) Chemo-ethology of a adaptive protocell: Sensor-less sensitivity to implicit viability conditions in Kampis, G., Karsai, I and Szathmary, E. (eds) Advances in Artificial Life Proceedings of the 10th European Conference on Artificial Life, ECAL09, Budapest, September 13-16, 2009, LNAI 5777, Springer Verlag, pp. 242 – 249.
- [8] Hu, X-B, and Di Paolo, E., (2009). A ripple-spreading genetic algorithm for the airport gate assignment problem. IEEE Congress on Evolutionary Computation, CEC, 2009, Trondheim, Norway, 18-21 May, 2009.
- [9] Grespan, L., Froese, T., Di Paolo, E. A., Seth, A. K., Spiers, A., and Bigge, W. (2008). Investigating the role of movement in the constitution of spatial perception using the Enactive Torch. Enactive08 5th International Conference on Enactive Interfaces, 19 - 21 November, Pisa, Italy.
- [10] Egbert, M. and Di Paolo, E. A. (2008). Mechanisms of Adaptation to Periodic Environmental Change. Epigenetics Robotics 2008, Brighton, UK.
- [11] Barandiaran, X. and Di Paolo, E. A. (2008). Artificial mental life: The disjoint continuity between life and mind (abstract). In S. Bullock, J. Noble, R. A. Watson, and M. A. Bedau (Eds.) Proceedings of the 11th International Conference on Artificial Life, Alife XI, Winchester, UK, MIT Press, Cambridge, MA.
- [12] Di Paolo, E. A. (2008). Life in time: The missing temporal dimension in autopoiesis (abstract). In S. Bullock, J. Noble, R. A. Watson, and M. A. Bedau (Eds.) Proceedings of the 11th International Conference on Artificial Life, Alife XI, Winchester, UK, MIT Press, Cambridge, MA.
- [13] Rohde, M. and Di Paolo, E. A. (2008). Evolutionary robotics models in the interdisciplinary study of embodied time perception (abstract). In S. Bullock, J. Noble, R. A. Watson, and M. A. Bedau (Eds.) Proceedings of the 11th International Conference on Artificial Life, Alife XI, Winchester, UK, MIT Press, Cambridge, MA.

- [14] Vargas, P., Di Paolo, E. A. and Husbands, P. (2008). A study of GasNets spatial embedding in a delayed response task. In S. Bullock, J. Noble, R. A. Watson, and M. A. Bedau (Eds.) Proceedings of the 11th International Conference on Artificial Life, Alife XI, Winchester, UK, MIT Press, Cambridge, MA.
- [15] Buckley, C., Fine, P. Bullock, S. and Di Paolo, E. A. (2008). Stability of coordination requires mutuality of interaction in a model of embodied agents. From Animats to Animals 10, The Tenth International Conference on the Simulation of Adaptive Behavior, Osaka, Japan, July 7–10, 2008.
- [16] Fernandez-Leon, J. and Di Paolo, E. A. (2008) Neural noise induces the evolution of robust behaviour by avoiding non-functional bifurcations. From Animats to Animals 10, The Tenth International Conference on the Simulation of Adaptive Behavior, Osaka, Japan, July 7–10, 2008.
- [17] Froese, T. and Di Paolo, E. A. (2008). Stability of coordination requires mutuality of interaction in a model of embodied agents. From Animats to Animals 10, The Tenth International Conference on the Simulation of Adaptive Behavior, Osaka, Japan, July 7–10, 2008.
- [18] Iizuka, H. and Di Paolo, E. A. (2008). Extended homeostatic adaptation: Improving the link between internal and behavioural stability. From Animats to Animals 10, The Tenth International Conference on the Simulation of Adaptive Behavior, Osaka, Japan, July 7–10, 2008.
- [19] Rohde, M. and Di Paolo, E. A. (2008). Embodiment and perceptual crossing in 2D: A comparative evolutionary robotics study. From Animats to Animals 10, The Tenth International Conference on the Simulation of Adaptive Behavior, Osaka, Japan, July 7–10, 2008.
- [20] Froese, T. and Di Paolo, E. A. (2008). An enactive approach to social cognition: Detection of social contingency or stability of interaction dynamics? euCognition Fourth Six-Monthly Meeting, 10–11 January 2008, Venice. (Winner of best paper competition).
- [21] Hu, X-B., Di Paolo E. A. and Barnett, L. (2008) Ripple-spreading model and genetic algorithm for random complex networks: Preliminary study, The World Congress on Computer Intelligence (WCCI2008), Hong Kong, China, 01-06 June 2008.
- [22] Di Paolo, E. A., (2007). Play, enaction and the dialectics of worldmaking. In *Toward a Science of Consciousness 2007*, Budapest, Hungary, July 23 – 26, 2007.
- [23] Dyke, J., McDonald-Gibson, J., Di Paolo, E. A. and Harvey, I. (2007). Increasing complexity can increase stability in a self-regulating ecosystems. In F. Almeida e Costa, L. M. Rocha, E. Costa, I. Harvey and A. Coutinho (Eds), *Advances in Artificial Life, 9th European Conference on Artificial Life ECAL 2007*. LNAI 4648, Berlin: Springer-Verlag, pp. 133 – 142.
- [24] Fernandez-Leon, J. and Di Paolo, E. A. (2007). Neural uncertainty and sensorimotor robustness. In F. Almeida e Costa, L. M. Rocha, E. Costa, I. Harvey and A. Coutinho (Eds), *Advances in Artificial Life, 9th European Conference on Artificial Life ECAL 2007*. LNAI 4648, Berlin: Springer-Verlag, pp. 786 – 795.
- [25] Fine, P., Di Paolo, E. A., Izquierdo, E. (2007). Adapting to your body. In F. Almeida e Costa, L. M. Rocha, E. Costa, I. Harvey and A. Coutinho (Eds), *Advances in Artificial Life, 9th European Conference on Artificial Life ECAL 2007*. LNAI 4648, Berlin: Springer-Verlag, pp. 203 – 212.
- [26] Hu, X-B., and Di Paolo, E. A., (2007). A genetic algorithm based on complex networks theory for the management of airline route networks. In Krasnogor, N.; Nicosia, G.; Pavone, M.; Pelta, D. (Eds.) *Nature Inspired Cooperative Strategies for Optimization*, Springer-Verlag, vol 129, 495 – 505, Proceedings of NCSO2007, Acireale, Sicily (Italy), November 8-10 2007.
- [27] Hu, X-B., and Di Paolo, E. A., (2007). A hybrid genetic algorithm for the travelling salesman problem. In Krasnogor, N.; Nicosia, G.; Pavone, M.; Pelta, D. (Eds.) *Nature Inspired Cooperative Strategies for Optimization*, Springer-Verlag, vol 129, 357–367, Proceedings of NCSO2007, Acireale, Sicily (Italy), November 8-10 2007.
- [28] Hu, X-B. and Di Paolo, E. A., (2007). An efficient genetic algorithm with uniform crossover for the multi-objective airport gate assignment problem, in *2007 IEEE Congress on Evolutionary Computation, CEC 2007*, Singapore, September 25–28, 2007, pp. 55–62.

- [29] Iizuka, H. and Di Paolo, E. A. (2007). Minimal agency detection of embodied agents. In F. Almeida e Costa, L. M. Rocha, E. Costa, I. Harvey and A. Coutinho (Eds), *Advances in Artificial Life, 9th European Conference on Artificial Life ECAL 2007*. LNAI 4648, Berlin: Springer, pp. 485 – 494.
- [30] Rohde, M. and Di Paolo, E. A. (2007). Adaptation to sensory delays. An evolutionary robotics model of an empirical study. In F. Almeida e Costa, L. M. Rocha, E. Costa, I. Harvey and A. Coutinho (Eds), *Advances in Artificial Life, 9th European Conference on Artificial Life ECAL 2007*. LNAI 4648, Berlin: Springer-Verlag, pp. 193 – 202.
- [31] Vargas, P., Di Paolo, E. A. and Husbands, P. (2007). Preliminary investigations on the evolvability of a non-spatial GasNet model. In F. Almeida e Costa, L. M. Rocha, E. Costa, I. Harvey and A. Coutinho (Eds), *Advances in Artificial Life, 9th European Conference on Artificial Life ECAL 2007*. LNAI 4648, Berlin: Springer-Verlag, pp. 966 – 975.
- [32] Wood, R. and Di Paolo, E. A. (2007). New models for old questions: Evolutionary robotics and the ‘A not B’ error. In F. Almeida e Costa, L. M. Rocha, E. Costa, I. Harvey and A. Coutinho (Eds), *Advances in Artificial Life, 9th European Conference on Artificial Life ECAL 2007*. LNAI 4648, Berlin: Springer-Verlag, pp. 1141 – 1150.
- [33] Iizuka, H., and Di Paolo, E. A., (2006). Are you interacting with me? The embodied dynamics of minimal agency detection. Last minute abstract From Animats to Animals 9 The Ninth International Conference on the Simulation of Adaptive Behavior (SAB’06) 25 - 29 September 2006, CNR, Roma, Italy .
- [34] Rohde, M. and Di Paolo, E. A. (2006). An evolutionary robotics simulation of human minimal social interaction. Workshop on Behaviour and Mind as a Complex Adaptive System, SAB’06, Roma, Italy, 30 September 2006.
- [35] Wood, R., and Di Paolo, E. A. (2006). Learn to live with yourself: A developmental perspective on morphology and motion. Workshop on Morphology, Motion and Cognition, Alife X, 3 – 4 June, 2006 Bloomington, Indiana, USA.
- [36] De Jaegher, H., Wood, R., and Di Paolo, E. A. (2006). How does interactional coordination come about? Probing situated social cognition. *Situated Cognition: Perspectives from Phenomenology and Science*, Durham University, UK 18 – 20 August 2006.
- [37] Buehrmann, T., and Di Paolo, E. A. (2006). Biological actuators are not just springs: Investigating muscle dynamics and control signals. From Animats to Animals 9 The Ninth International Conference on the Simulation of Adaptive Behavior (SAB’06) 25 – 29 September 2006, CNR, Roma, Italy, S. Nolfi et al. (eds), Springer, Berlin Heidelberg, LNAI 4095, pp 89 – 100.
- [38] Fine, P. A., Di Paolo, E. A., and Philippides, A. O., (2006). Spatially constrained networks and the evolution of modular control systems. From Animats to Animals 9 The Ninth International Conference on the Simulation of Adaptive Behavior (SAB’06) 25 – 29 September 2006, CNR, Roma, Italy, S. Nolfi et al. (eds), Springer, Berlin Heidelberg, LNAI 4095, pp 546 – 557.
- [39] Rohde, M., and Di Paolo, E. A. (2006). Evolutionary robotics and perceptual supplementation: Dialogue between two minimalist approaches. *AI’50. 50th Anniversary Summit of Artificial Intelligence*. Monte Verita, Switzerland, 9 – 14 July, 2006.
- [40] Hu, X., and Di Paolo, E. A. (2006). Genetic algorithms: artificial selection via natural selection. 6th World Congress on Intelligent Control and Automation, WCICA06, DaLian, China.
- [41] Macinnes, I., and Di Paolo, E. A. (2005). The advantages of evolving perceptual cues. Active agents and their environments as dynamical systems. (Activate.d) Workshop at ECAL 2005.
- [42] Rohde, M. and Di Paolo, E. A. (2005). *t* for two. Linear synergy advances the evolution of directional pointing behaviour. In M. Capcarrere et al. (Eds) *ECAL 2005*, LNAI 3630 Springer Verlag, pp. 262 – 271.
- [43] Izquierdo-Torres, E., and Di Paolo, E. A. (2005). Is an embodied system ever purely reactive? In M. Capcarrere et al. (Eds) *ECAL 2005*, LNAI 3630 Springer Verlag, pp. 252 – 261.
- [44] Vickerstaff, R. J., and Di Paolo, E. A. (2005). An evolved agent performing efficient path integration based homing and search. In M. Capcarrere et al. (Eds) *ECAL 2005*, LNAI 3630 Springer Verlag, pp. 221 – 230.

- [45] Macinnes, I., and Di Paolo, E. A. (2005). From the inside looking out: self-extinguishing perceptual cues and the constructed worlds of animats. In M. Capcarrere et al. (Eds) *ECAL 2005*, LNAI 3630 Springer Verlag, pp. 11 – 20.
- [46] Suzuki, M., Floreano, D., and Di Paolo, E. A. (2005) Constraints on body movement during visual development affect the behavior of evolutionary robots. *Proceedings of the IEEE International Joint Conference on Neural Networks IJCNN'2005*. Montréal, Canada, July 31st – August 4th, Vol 5, pp. 2778 – 2783
- [47] Vaughan, E., Di Paolo, E. A., and Harvey, I. (2005). The tango of a load-balancing biped. In M. A. Armada and P. de Gonzalez Santos *Climbing and Walking Robots Proceedings of the 7th International Conference CLAWAR 2004* Madrid, 22 – 24 Sept. 2004, Springer, pp. 813 – 824.
- [48] Harvey, I., Vaughan, E., and Di Paolo, E. A. (2004). Time and motion studies: The dynamics of cognition, computation and humanoid walking. HART 2004, Fourth International Symposium on Human and Artificial Intelligence Systems: From Control to Autonomy. University of Fukui, Japan. 5 – 6 December 2004.
- [49] Buehrmann, T., and Di Paolo, E. A. (2004). Closing the loop: Evolving a model-free visually guided robot arm. Ninth International Conference on the Simulation and Synthesis of Living Systems, Alife 9. Boston, Massachusetts, 12 - 15 August 2004, J. Pollack, M. Bedau, P. Husbands, T. Ikegami and R. Watson. (eds), pp. 63 – 68, MIT Press.
- [50] Fernando, C., and Di Paolo, E. A. (2004). The Chemoton: A model for the origin of long RNA templates. Ninth International Conference on the Simulation and Synthesis of Living Systems, Alife 9. Boston, Massachusetts, 12 - 15 August 2004, J. Pollack, M. Bedau, P. Husbands, T. Ikegami and R. Watson. (eds), pp. 1 – 8, MIT Press.
- [51] Macinnes, I., and Di Paolo, E. A. (2004). Crawling out of the simulator: Evolving real robot morphologies using cheap, reusable modules. Ninth International Conference on the Simulation and Synthesis of Living Systems, Alife 9. Boston, Massachusetts, 12 - 15 August 2004, J. Pollack, M. Bedau, P. Husbands, T. Ikegami and R. Watson. (eds), pp. 94 – 99, MIT Press.
- [52] Vaughan, E., Di Paolo, E. A., and Harvey, I. (2004). The evolution of control and adaptation in a 3D powered passive dynamic walker. Ninth International Conference on the Simulation and Synthesis of Living Systems, Alife 9. Boston, Massachusetts, 12 - 15 August 2004, J. Pollack, M. Bedau, P. Husbands, T. Ikegami and R. Watson. (eds), pp. 139 – 144, MIT Press.
- [53] Di Paolo, E. A. (2002). Evolving Spike-Timing Dependent Plasticity for Robot Control. EP-SRC/BBSRC International Workshop: Biologically-inspired Robotics, The Legacy of W. Grey Walter, WGW'2002. HP Labs, Bristol, 14 – 16 August 2002, pp. 142–149.
- [54] Di Paolo, E. A. (2002). Fast homeostatic oscillators induce radical robustness in robot performance. In, B. Hallam, D. Floreano, J. Hallam, G. Hayes, and J-A. Meyer, *From Animals to Animats 7, Proceedings of the Seventh International Conference on Simulation of Adaptive Behavior*, pp. 303 – 305, MIT Press.
- [55] Di Paolo, E. A. (2001). Artificial Life and Historical Processes. In *Advances in Artificial Life: Proceedings of the 6th European Conference on Artificial Life*, Prague, J. Kelemen, P. Sosik (eds.), Springer-Verlag, pp. 649 – 658.
- [56] Di Paolo, E. A. (2000). Homeostatic adaptation to inversion of the visual field and other sensorimotor disruptions. *From Animals to Animats 6, Proceedings of the Sixth International Conference on Simulation of Adaptive Behavior*, Sep 2000, J-A. Meyer, A. Berthoz, D. Floreano, H. Roitblat and S. Wilson. (eds), pp. 440 – 449, MIT Press.
- [57] Di Paolo, E. A. (2000). Searching for rhythms in asynchronous Boolean networks. *Artificial Life VII: Proceedings of the Seventh International Conference*, M. Bedau, J. S. McCaskill, N. H. Packard, and S. Rasmussen (eds), pp. 73 – 80, MIT Press.
- [58] Di Paolo, E. A., Noble, J. and Bullock, S. (2000). Simulation models as opaque thought experiments. *Artificial Life VII: Proceedings of the Seventh International Conference*, M. Bedau, J. S. McCaskill, N. H. Packard, and S. Rasmussen (eds), pp. 497 – 506, MIT Press.

- [59] Di Paolo, E. A. (1999). A little more than kind and less than kin: The unwarranted use of kin selection in spatial models of communication. In D. Floreano, J-D. Nicoud, and F. Mondada, editors, *Advances in Artificial Life: Proceedings of the 5th European Conference on Artificial Life*, pp. 504 – 513, Springer Verlag.
- [60] Di Paolo, E. A. (1998). Assessing the role of social development in the evolution of cooperation. In R. Pfeifer, B. Blumberg, J-A. Meyer and S. Wilson (eds) Fifth International Conference on Simulation of Adaptive Behavior; Zürich, August 1998, pp. 453 – 458, MIT Press.
- [61] Di Paolo, E. A. (1998). Behavioural coordination in acoustically coupled agents. ICANN'98 8th International Conference on Artificial Neural Networks, Skövde, Sweden, 2-4 September 1998, Special Module on Autonomous Robotics and Adaptive Behavior, Nicklasson, L, Bodén, M. and Ziemke, T. (eds.) Springer, London, pp. 1097 – 1102.
- [62] Di Paolo, E. A. (1997). Social coordination and spatial organization: steps towards the evolution of communication. In Husbands, P. and Harvey, I., editors, *Proceedings of the 4th European Conference on Artificial Life*, pp. 464 – 473, MIT Press.

Invited Conference Presentations, Not Refereed

- [1] Di Paolo, E. A., (2009). “From sensorimotor coordination to enaction: Agency, sense-making and sociality as horizons for embodied cognition”, Keynote lecture, EUCogII Members Conference Oct. 10/11 2009, Hamburg.
- [2] Di Paolo, E. A., (2009). “Enactive perception: Beyond the sensorimotor approach”, Philosophy of Perception Conference, University of Tokyo, Japan, March 5-7th, 2009.
- [3] De Jaegher, H and Di Paolo, E. A., (2009) “Implications of the enactive definition of the social”, Workshop on Enacting Intersubjectivity, Lugano, Switzerland, February 13-14th, 2009.
- [4] Di Paolo, E. A., (2008) “Agency and time”, Agency Workshop, Kyoto, Japan, July 17th, 2008.
- [5] Di Paolo, E. A., (2007) “Escape from pervasive individualism: Why should embodied cognition seriously study the collective dynamics of social interaction?” 9th European Conference on Artificial Life, ECAL2007, September 10–14, 2007, Lisbon, Portugal. Keynote Speaker.
- [6] Di Paolo, E. A., (2007) “Groovedigging: an Ashbyan Principle for the Dynamics of Development”. Workshop on Dynamical Approaches to Development: Beyond the Metaphor. 9th European Conference on Artificial Life, ECAL2007, September 9 –10, 2007, Lisbon, Portugal.
- [7] Di Paolo, E. A., (2007) “Enaction begins in autonomy”. CNRS Summer School: Enaction and Cognitive Science. Organized by the Association pour la Recherche Cognitive (ARCo), 6 September to 12 September 2007 – Fréjus, France.
- [8] Di Paolo, E. A., (2006) “Enactive sense-making, play and the receding horizon of representationalism”. Workshop on Representation and action in human beings and machines. Università degli Studi di Siena, Siena, Italy, 20 – 22 October 2006.
- [9] Di Paolo, E. A., (2006) “Sense-making and agency: Being and doing intertwined”. SAB06 Workshop: Behaviour and Mind as a Complex Adaptive System. Roma, Italy, 30 Sept. 2006.
- [10] Di Paolo, E. A., (2006) “Enactive perception: Lessons from evolutionary robotics”. Perceiving and Being Perceived in Digital Environments, Cognitive Technologies Program (FMSH – EDF R&D). Paris, 12 June 2006.
- [11] Di Paolo, E. A., (2006) “Horizons for the enactive mind: Values, social interaction, and play”. CNRS Summer School: Constructivism and Enaction: A New Paradigm for Cognitive Science. Organized by the Association pour la Recherche Cognitive (ARCo) 29 May to 03 June 2006 - Ile d’Oléron, France.
- [12] Di Paolo, E. A., (2006) “Playing to be mindful (remedies for chronic boxology)”. AISB’06 Symposium on Machine Consciousness. University of Bristol.
- [13] Di Paolo, E. A., (2006) “Challenges for artificial cognitive systems”. Artificial Cognitive Systems – Models and Paradigms. A preparatory Workshop for the EU Seventh Framework Programme (FP7) 2007-2013 for research and technology development. Luxembourg, 20-21 March 2006.

- [14] Di Paolo, E. A., (2006) “Autopoiesis, Adaptivity, and Sense-making: towards a biology of values”. NUCOG/PHITECO Seminar Cognition, Motivation, Action. Université de Technologie de Compiègne.
- [15] Di Paolo, E. A., Bullock, S. and Noble, J. (2005) “The role of the individual in individual-based models”. British Ecological Society Annual Meeting 5 – 7 September 2005. University of Hertfordshire.
- [16] Di Paolo, E. A., (2004) Beyond robot movement, towards robot action. Erasmus Seminar *Savoir ce que l'on fait*. Université de Technologie de Compiègne.
- [17] Di Paolo, E. A., (2003) Evolutionary robotics: the Sussex approach. *Art+Science Symposium*. Universidad del País Vasco, Bilbao.
- [18] Di Paolo, E. A.,(2003) Plastic and non-plastic spiking neural controllers in evolutionary robotics. *Second International Conference on Computation and Control in Spiking Neuronal Networks.*, University of Sussex.
- [19] Di Paolo, E. A.,(2003) Homeostasis in adaptive behaviour, neuroscience and evolutionary robotics. *Third Daisyworld and Beyond Workshop.*, University of Sussex.
- [20] Di Paolo, E. A.,(2002) Towards organismically-inspired robotics. In *Dynamic Systems Approach to Embodiment and Sociality*, 3rd International Symposium on Human and Artificial Intelligence, HART 2002, University of Fukui, Japan. Keynote Speaker.
- [21] Di Paolo, E. A.,(2003) Evolutionary synthesis of networks. *Simple Models of Complex Networks Workshop.*, University of Leeds.
- [22] Di Paolo, E. A.,(2003) Organismically-inspired robotics: homeostatic adaptation and teleology beyond the closed sensorimotor loop. Erasmus Seminar *Espaces d'action, espaces de perception*. Université de Technologie de Compiègne.
- [23] Di Paolo, E. A., (1998). Spatio-temporal and structural constraints in the evolution of communication. Presented at the Second Conference on the Evolution of Language, London, UK, 6–9 April.
- [24] Di Paolo, E. A., and Rovere, L., (1994). A knowledge-based system for diagnosis of transients in a nuclear power plant. Annual Workshop of the Argentine Association of Automatic Control (IFAC member), Buenos Aires, Sept. 1994.

Book Chapters

- [1] J. Stewart, Di Paolo, E. A., and O. Gapenne. (2010). “Introduction”. In J. Stewart, O. Gapenne, and E. A. Di Paolo (Eds) *Enaction: Towards a new paradigm for cognitive science*, MIT Press, in press.
- [2] Di Paolo, E. A., Rohde, M. and De Jaegher, H. (2010). “Horizons for the enactive mind: Values, social interaction, and play”. In J. Stewart, O. Gapenne, and E. A. Di Paolo (Eds) *Enaction: Towards a new paradigm for cognitive science*, MIT Press, in press.
- [3] Di Paolo, E. A. (2009). “Overcoming autopoiesis: a enactive detour on the way from life to society”. In R. Magalhaes, and R. Sanchez (Eds) *Autopoiesis in Organizations and Information Systems*, Elsevier.
- [4] Bird, J. and Di Paolo, E. A. (2008). “Gordon Pask and his maverick machines”. In P. Husbands, O. Holland, and M. Wheeler (Eds) *The Mechanisation of Mind in History*, MIT Press, pp. 185 – 212.
- [5] De Jaegher, H. and Di Paolo, E. A. (2008). “Making sense in participation: An enactive approach to social cognition”. In F. Morganti, A. Carassa, and G. Riva (Eds) *Enacting intersubjectivity: A cognitive and social perspective to the study of interactions*, IOS Press: Amsterdam, pp. 33 – 48.
- [6] Hu, X., and Di Paolo, E. A. (2008). “An efficient genetic algorithm with uniform crossover for the multi-objective airport gate assignment problem”, in K. C. Tan, C. K. Goh and Y. S. Ong (eds) *Multi-Objective Memetic Algorithms* edited by, in press, Springer-Verlag, in press.
- [7] Hu, X., and Di Paolo, E. A. (2008). “Genetic algorithms for the airport gate assignment problem: Linkage, representation and uniform crossover”, (invited chapter) in Y.P. Chen and M.H. Lim (eds) *Linkage in Evolutionary Computation*, Springer-Verlag, in press.
- [8] Di Paolo, E. A. (2004). “Organismically-inspired Robotics: Homeostatic adaptation and natural teleology beyond the closed sensorimotor loop”, in K. Murase and T. Asakura (Eds) *Dynamical systems approach to embodiment and sociality*, Advanced Knowledge International, Adelaide, pp. 19 – 42.
- [9] Noble, J., Di Paolo, E. A., and Bullock, S. (2001). “Adaptive factors in the evolution of signalling systems”. In A. Cangelosi and D. Parisi (Eds) *Simulating the Evolution of Language*, Springer Verlag, London, pp. 53 – 78.

Edited Special Issues

- [1] Di Paolo, E. A., (2009). The Social and Enactive Mind, *Phenomenology and the Cognitive Sciences*, Special Issue, vol 8 issue 4, DOI 10.1007/s11097-009-9143-5.
- [2] *Adaptive Behavior* (10 3/4 and 11 1). Special Issue on Plastic Mechanisms, Multiple Timescales and Lifetime Adaptation.
- [3] *Artificial Life* vol 10/3. Special issue on Francisco Varela’s contributions to ALife.

Books

- [1] P. Vargas, E. A. Di Paolo, I. Harvey, and P. Husbands (Eds) *The horizons of evolutionary robotics*, MIT Press, forthcoming, 2010.
- [2] J. Stewart, O. Gapenne, and E. A. Di Paolo (Eds) *Enaction: Towards a new paradigm for cognitive science*, MIT Press, forthcoming, 2010.

Reviews and Commentaries

- [1] Todd, P., and Di Paolo, E. A. (2009) Farewell and hello editorial *Adaptive Behavior*, **17:1**, 5 – 6.
- [2] Di Paolo, E. A. (2007) Secreting mind out of matter. AI Lab (ed.) *The Rediscovery of Intelligence: 20 Years of AI - in Zurich and world-wide*.

- [3] Di Paolo, E. A., (2007). The Quiet Heideggerian. Review of Michael Wheeler’s Reconstructing the cognitive world, MIT Press. *Artificial Life*, **13:1**, 203 –206.
- [4] Di Paolo, E. A., (2004). Hans Jonas’ The Phenomenon of Life *Journal of the British Society for Phenomenology*, **36:3**, 340 – 342..
- [5] Di Paolo, E. A., (2002). Review of “Cycles of Contingency” edited by S. Oyama, R. Gray and P. Griffiths, MIT Press. *Artificial Life*, **8:2**, 219 – 222.
- [6] Di Paolo, E. A., (2002). Review of “Evolutionary Robotics” by S. Nolfi and, D. Floreano, MIT Press. *Connection Science*, **14:1**, 88 – 91.
- [7] Di Paolo, E. A., (2001). Review of “The Mechanization of the Mind: On the Origins of Cognitive Science” by J-P. Dupuy. *Cognitive Systems Research* **2**, 291 – 295.
- [8] Di Paolo, E. A. (2000). A field in search of maturity. *Künstliche Intelligenz*, **00/1**, 41 – 42.
- [9] Di Paolo, E. A, Bullock, S. and Noble, J. (2000). Artificial life: Discipline or method? *Artificial Life*, **6:2**, 145 – 148.
- [10] Di Paolo, E. A. (2000). The Design of Animal Communication. *Adaptive Behavior*, **8:1** pp. 73 – 77.