Ezequiel A. Di Paolo

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Profile

I am a cognitive scientist working at the intersection between the sciences of the mind and the humanities. I am a Research Professor in the Department of Logic and Philosophy of Science, University of the Basque Country. I work in cognitive science, philosophy of mind, and complex systems modelling. Previously I was a Reader in Evolutionary and Adaptive Systems at the University of Sussex where I have been co-director of the Evolutionary and Adaptive Systems MSc programme. My research interests include social cognition, embodiment, dynamical systems, biological modelling, and evolutionary robotics. I have extensive experience in research project management, teaching and research supervision (to date: 12 PhDs and 12 Postdocs). I am the author of over 150 peer-reviewed publications and Editor-in-Chief of the journal *Adaptive Behavior*.

Personal Details

Born 1970

Nationality: Argentinian / Italian.

Employment

Research Professor Philosophy, Cognitive Science	Ikerbasque, Basque Foundation for Science	2010–
Reader Evolutionary and Adaptive Systems	University of Sussex	2007–2009
Senior Lecturer Evolutionary and Adaptive Systems	University of Sussex	2005–2007
Lecturer Evolutionary and Adaptive Systems	University of Sussex	2000–2005
Postdoctoral Researcher	GMD: German National Research Center for Information Technology	1999–2000

Education

D.Phil., Computer Science and Artificial Intelligence	University of Sussex	1995–1998
M.Sc. Nuclear Engineering	Instituto Balseiro, Argentina	1990–1994
Physics & Mathematics	Universidad de Buenos Aires	1988–1990

Research Funding

• *Quantifiable Constituents of Spiritual Growth* John Templeton Foundation, Co-investigator. Status: running.	2013–2016 $2,300,000
• *eSMCs: Extending sensorimotor contingencies to cognition* FP7-ICT-2009-6 no: 270212. PI. Status: completed.	2011–2014 €3,645,000
• *TESIS: Towards an embodied science of intersubjectivity* Marie-Curie ITN. FP7-PEOPLE-2010-ITN, no: 264828. PI and Network Training Coordinator. Status: completed.	2011–2015 €4,295,272
• *Basque Government Financing for Research Groups IAS-Research* IT590-13. Co-Investigator. Status: running.	2013–2018 €226,598
• *Identity in interaction* Spanish Ministry of Science and Innovation. FFI2014-52173-P. Co-Investigator. Status: running.	2015–2019 €50,000
• *Autonomy and levels of organization* Spanish Ministry of Science and Innovation. FFI2011-25665/FISO. Co-Investigator. Status: running.	2012–2014 €70,950
• *Basque Government Financing for Research Groups IAS-Research* IT505-10. Co-Investigator. Status: completed.	2010–2012 €61,000.
• *Information, autonomy and systems* Spanish Ministry of Science and Education. HUM2005-02449. Co-Investigator. Status: completed.	2005–2008 €45,220
• *SECSE: Spatially-embedded Complex Systems Engineering* EPSRC(UK) Project EP/C51632X/1. PI. Status: completed.	2005–2009 £1,534,784
• *SMoCN: Simple Models of Complex Networks* EPSRC(UK) Research Cluster. GR/S63762/01. PI. Status: completed.	2003–2004 £53,539
• *Adaptation to radical sensorimotor disruptions through internal homeostasis* Nuffield Foundation. NAL/00274/G. PI. Status: completed.	2001–2003 £4,000

Awards and Fellowships

Cesar Milstein Award, Programa Raices (Argentina)	2009/2013
Nuffield Foundation Award for Newly Appointed Lecturers in Maths and Engineering	2001–2003
Overseas Research Students Award (CVCP, UK)	1997–1998
CONICET (Fellowship, Argentine Research Council)	1995–1998
Research Award from Argentine Ministry of Education	1995–1997
National Atomic Energy Agency Research Fellow (Argentina)	1994–1995
National Atomic Energy Agency Scholarship (Argentina)	1990–1994

Current Research

Centre for Research on Life, Mind and Society — University of the Basque Country — 2010–present

- *Embodied cognitive science; Enactivism*
- *Social Cognition; Intersubjectivity*
- *Philosophy of Biology*

Centre for Computational Neuroscience and Robotics — University of Sussex — 2000–present

- *Evolutionary robotics*
- *Computational neuroscience*
- *Evolutionary biology*
- *Philosophy of mind and embodied cognitive science*
- *Complex spatial networks*

Previous Research Experience

Postdoctoral Researcher — German National Research Centre for Information Technology (GMD) — 1999–2000

- *Evolutionary biology modelling.*
- *Active perception and plasticity.*

Doctoral Dissertation — University of Sussex — 1995–1999

"On the Evolutionary and Behavioral Dynamics of Social Coordination"

Supervisor: Prof. Phil Husbands. Defended January 1999

Research Fellow, National Atomic Energy Agency — Department of Process Control. Bariloche Atomic Centre — 1994–1995

- *Recurrent neural networks for dynamic data analysis*

MSc Dissertation

"A Knowledge-Based System for Real-Time Fault Diagnosis in a Nuclear Power Plant"

Supervisor: Dr. Luis Rovere, Instituto Balseiro. Defended August 1994

Media and Outreach

La mente corporizada	Documentary, University of Zaragoza	2014
Education Physique et Sport (362)	Interview	2014
AVANT (Journal)	Interview (with Hanne De Jaegher)	10/2012
Noticias de Gipuzkoa	Interview (with Hanne De Jaegher)	05/2012
Gara newspaper	Interview (with Hanne De Jaegher)	05/2012
donostiakultura	Open public talk ("Body and Emotions")	11/2011
Ikerbasque Bulletin	Interview	10/2011
El Pais	Interview	09/2011
New APPS Blog	Interview	06/2011
RTVE (Spanish TV)	Tres14 (Pop Science Program)	04/2011
El Periodico de Aragon	Interview	05/2010
El Heraldo de Aragon	Interview	05/2010
Pagina 12	Feature article	05/2009

Teaching/Supervision

Reader	Evolutionary and Adaptive Systems School of Cognitive and Computing Sciences (COGS) University of Sussex	2007–2009
Senior Lecturer		2005–2007
Lecturer		2000–2005

Areas of teaching expertise: Curriculum development, lecturing, seminar and lab class organisation, and assessment. Cognitive science, social cognition, artificial intelligence, adaptive systems, adaptive behaviour, ecological and evolutionary modelling, evolutionary game theory, spatially embedded processes, computational neuroscience, chronobiology, artificial life, scientific computing and numerical methods, pure and applied mathematics, dynamical systems theory, control theory, physics of nonlinear phenomena and self-organisation, philosophy of mind.

Students: Postgraduate level, including MSc, MRes and MA students in Evolutionary and Adaptive Systems, Philosophy of Cognitive Science, and Intelligent Systems. Undergraduate level: final year.

Courses:

• *Intelligence in Animals and Machines:* Postgraduate seminar organisation, development of course material and online resources, assessment.

• *Adaptive Systems:* Curriculum development, lectures, seminar organisation, development of course material and electronic resources, development of laboratory practices, assessment.

• *Dynamics of Development:* Newly developed postgraduate module (2006). Lectures, seminar organisation, development of course material and electronic resources, development of curriculum, assessment.

Supervision:

• *Postdoctoral supervision:* Since 2005: 12 PD researchers.

• *PhD supervision:* Since 2000: 12 completed dissertations.

• *MSc dissertation supervision:* 6-8 per year, 2000–2009. Supervised dissertations have won best dissertation prize in all years so far.

• *UG final-year project supervision:* 6-7 per year, 2000–2009. Supervised projects have obtained runner-up Searchspace prizes in 2002 and 2003 and won it in 2003, 2004 and 2005.

Previous Teaching Experience

Tutor	Instituto Balseiro	1994–1995
Heat and Mass Transfer.		
Tutor	Instituto Balseiro	1994–1995
Laboratory of Control Engineering.		
Tutor	Universidad de Buenos Aires	1989–1990
Multi-variate Calculus and *Linear Algebra.*		

Event Organization

- Summer School "Embodying Intersubjectivity Research", 14–18 May 2012, San Sebastian, Spain.
- Summer School "The Future of the Embodied Mind", 5–9 September 2011, San Sebastian, Spain.
- Workshop "Enactive Approaches to Social Cognition", 31 August – 1 September 2008, Battle, UK.
- Workshop "Agency in Artificial and Natural Systems", 11–12 July, 2008, Kyoto, Japan.
- Workshop "Mathematical Models in Evolution and Ecology", September, 20–21 2007, University of Sussex.
- "International Research Symposium: A Networks Perspective on Complex Systems Challenges", January, 19–20 2004, University of Leeds.
- "Summer Workshop on Simple Models of Complex Networks", July 17–18 2003, University of Leeds.
- Workshop "Open Challenges in Complex Networks Science", May 4, 2003, University of Leeds.
- Workshop "The View from Elsewhere" at the 6th European Conference on Artificial Life, (ECAL'2001), Prague, Czech Republic, Sept. 2001.
- Workshop "Artificial Life: Discipline or Method?" at the 5th European Conference on Artificial Life, (ECAL'99), Lausanne, Switzerland, Sept. 1999.

Administrative

- Project and Research Group Management (Embodiment and Intersubjectivity).
- Training Coordinator Marie-Curie Initial Training Network TESIS 2011– 2015.
- Editor in Chief of Adaptive Behavior: 2008– present.
- Co-Director Evolutionary and Adaptive Systems MSc Programme: 2008–2009.
- Member of Exam Boards Sussex University: 2001 - 2009.
- European Convenor, Informatics, Sussex University. 2001–2002
- Autonomous Robots Lab development and administration: 2001–2009.
- Organizer of the Life and Mind seminar series: 2006–present
- Co-organizer of Artificial Life Reading Group at Sussex (Alergic) seminar series: 2001–2009
- Erasmus Programme: Sussex Coordinator for Seminar in Cognitive Science: 2001–2009.
- Liaison Erasmus Programme Intesif Philosophie, Technologie, Cognition: 2001–2009.

Professional Memberships

- Member of the EPSRC College of Peers (UK) (2006–present).
- Member of the Board of Directors of the *International Society of Artificial Life - ISAL* (2009–2014).
- Member of the *International Society for Adaptive Behavior - ISAB* (2008–present).

Other Professional Activities

- Keynote speaker at several international conferences and workshops.
- Editor-in-chief of the journal *Adaptive Behavior* (2008–present).
- Member of the Editorial Board of *Constructivist Foundations* and *Leonardo Electronic Almanac* (2009–present).
- External examiner, Computing and AI Masters Programme, University of Plymouth.
- Expert reviewer FP7-ICT.
- Grant proposal reviewer for the European Commission, EPSRC(UK), ESRC(UK), Swiss National Science Foundation, Research Foundation Flanders (FWO), and others.
- Project progress reviewer for EU-FP6 projects.
- Guest Editor for special issue of *Phenomenology and the Cognitive Science* on "The Social and Enactive Mind". Issue 8(4), 2009.
- Guest Editor for special issue of *Adaptive Behavior* on "Plastic mechanisms, multiple timescales and lifetime adaptation". Issue 10(3/4), 2002.
- Guest Editor for special issue of *Artificial Life* on "Francisco Varela and Alife" Issue 10/3, 2004.
- Regular member of the Programme Committee of major international conferences in the field (ECAL, CEC, SAB, ALife, GECCO).
- Programme Committee Membership 2004/5: SBRN 2004: Brazilian Symposium on Artificial Neural Networks (SBRN) São Luis, Brazil, 2004; IMAACA 2004. I3M: Genoa, Italy, 2004; AMIRE 2005: International Symposium on Autonomous Miniature Robots. Fukui, Japan 2005; IWASP: International Workshop on Self-Adaptive Systems and Processes. Taipei, 2005; Bio-ADIT 2006: 2nd International Workshop on Biologically Inspired approaches to Advanced Information Technology. Osaka University, 2006;
- Reviewing activity for *Frontiers in Neuroscience*, *Journal of Consciousness Studies*, *Phenomenology and the Cognitive Sciences*, *Adaptive Behavior*, *Animal Behaviour*, *Artificial Life*, *BioSystems*, *Body and Society*, *Cognitive Science*, *Cybernetics and Systems*, *IEEE Transactions on Evolutionary Computation*, *Philosophical Transactions of the Royal Society, London A*, *Physica D*, and others.
- Internal and external examiner of several (15+) PhD defences at international level. Member of jury for a defence for a Habilitation à Diriger des Recherches (Université Blaise Pascal, France, 2006).

Ezequiel A. Di Paolo – List of Publications

December, 2016
http://ezequieldipaolo.wordpress.com/publications/

Citation Information

Citations: **6299**

h-index: **36**

i10-index: **92**

Source: Google Scholar (27-12-2016)

Journal Papers, Refereed

[1] Di Paolo, E. A. (2016). Participatory object perception. *Journal of Consciousness Studies*, 23(56), 228 – 258.

[2] De Jaegher, H., Di Paolo, E. and Adolphs, R. (2016). What does the Interactive Brain Hypothesis mean for Social Neuroscience? A dialogue, *Philosophical Transactions of the Royal Society B*, 371, 20150379. http://dx.doi.org/10.1098/rstb.2015.0379.

[3] Di Paolo E. A. (2016). Across the uncanny valley: The ecological, the enactive, and the strangely familiar. *Constructivist Foundations*, 11(2): 327 – 329.

[4] Hu, X-B., Wang, M., Leeson, M. S., Di Paolo, E. A. and Liu, H. (2016). Deterministic agent-based path optimization by mimicking the spreading of ripples, *Evolutionary Computation*, 24(2), 319–346, doi:10.1162/EVCO_a_00156.

[5] Buhrmann, T. and Di Paolo, E. A. (2015). The sense of agency: A phenomenological consequence of enacting sensorimotor contingencies. *Phenomenology and the Cognitive Sciences*. doi: 10.1007/s11097-015-9446-7. (online first).

[6] Bermejo, F, Di Paolo, E., Hg, M. X. and Arias, C. (2015). Sensorimotor strategies for recognizing geometrical shapes: A comparative study with different sensory substitution devices. *Front. Psychol.* 6:679. doi: 10.3389/fpsyg.2015.00679.

[7] Di Paolo, E. and De Jaegher, H. (2015). Toward an embodied science of intersubjectivity: widening the scope of social understanding research. *Front. Psychol.* 6:234. doi: 10.3389/fpsyg.2015.00234.

[8] Di Paolo, E. (2015). Interactive time-travel: On the intersubjective retro-modulation of intentions, *Journal of Consciousness Studies*, 22(1–2), 49 – 74.

[9] Cuffari, E. Di Paolo, E., De Jaegher, H. (2014). From participatory sense-making to language: There and back again, *Phenomenology and the Cognitive Sciences*, doi 10.1007/s11097-014-9404-9 (online first).

[10] Buhrmann, T. and Di Paolo, E. A. (2014). Spinal circuits can accommodate interaction torques during multijoint limb movements. *Frontiers in Computational Neuroscience* 8:144. doi: 10.3389/fncom.2014.00144.

[11] Husbands, P. and Di Paolo, E. A. (2014). The Gomi legacy. *Adaptive Behavior*, 22: 386-389, doi: 10.1177/105971231454563.

[12] Di Paolo E. A., Barandiaran X.E., Beaton M., and Buhrmann T. (2014). Learning to perceive in the sensorimotor approach: Piagets theory of equilibration interpreted dynamically. *Front. Hum. Neurosci.* 8:551. doi: 10.3389/fnhum.2014.00551.

[13] Barandiaran, X. E. and Di Paolo, E. A. (2014). A genealogical map of the concept of habit. *Frontiers in Human Neuroscience* 8:522. doi: 10.3389/fnhum.2014.00522.

[14] Di Paolo, E. A. (2014). The worldly constituents of perceptual presence. *Frontiers in Psychology* 5:450. doi: 10.3389/fpsyg.2014.00450.

[15] Kyselo, M. and Di Paolo, E. A. (2014). Locked-in syndrome: A challenge for embodied cognitive science. *Phenomenology and the Cognitive Sciences*, doi: 10.1007/s11097-013-9344-9.

[16] Di Paolo, E. A., De Jaegher, H. and Gallagher, S. (2013). One step forward, two steps back. Not the tango. *Trends in Cognitive Sciences*, 17(7): 303 – 304, doi: 10.1016/j.tics.2013.05.003.

[17] Buhrmann, T., Di Paolo, E. A. and Barandiarn, X. (2013) A dynamical systems account of sensorimotor contingencies, *Frontiers in Psychology* 4:285. doi: 10.3389/fpsyg.2013.00285.

[18] McGann, M., De Jaegher, H. and Di Paolo, E. A. (2013) Enaction and psychology, *Review of General Psychology*, 17(2), 203 – 209 doi: 10.1037/a0032935.

[19] De Jaegher H and Di Paolo E. A. (2013). Enactivism is not interactionism. *Frontiers in Human Neuroscience* 6:345.

[20] Bedia M. G. and Di Paolo E. A. (2012). Unreliable gut feelings can lead to correct decisions: The somatic marker hypothesis in non-linear decision chains. *Front. Psychology* 3:384.

[21] Di Paolo, E. A. and De Jaegher, H. (2012). The interactive brain hypothesis, *Frontiers in Human Neuroscience*, 6:163.

[22] Hu, X-B, Wang, M. and Di Paolo, E. A. (2012). Calculating complete and exact Pareto front for multiobjective optimization: A new deterministic approach for discrete problems, *IEEE Transactions on Systems, Man, and Cybernetics: Part B*, 99, doi: 10.1109/TSMCB.2012.2223756

[23] Egbert, M. D., Barandiaran, X. E., and Di Paolo, E. A. (2012). Behavioral metabolution: The adaptive and evolutionary potential of metabolism-based chemotaxis. *Artificial Life*, 18(1), 1 – 25.

[24] Froese, T. and Di Paolo, E. A. (2011). The enactive approach: Theoretical sketches from cell to society. *Pragmatics and Cognition*, 19, 1 – 36.

[25] 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*, 83, 046123.

[26] Egbert, M., Barandiaran, X. and Di Paolo, E. A. (2010). A minimal model of metabolism-based chemotaxis, *PLoS Computational Biology*, 6(12): e1001004.

[27] 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.

[28] 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.

[29] 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.

[30] Bullock, S., Barnett, L., Di Paolo, E. A. (2010). Spatial embedding and the structure of complex networks, *Complexity*, 16(2): 20 – 28.

[31] Di Paolo, E. A. (2010). Robotics inspired in the organism. *Intellectica*, 53-54: 129 – 162.

[32] 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.

[33] Froese, T. and Di Paolo, E. A. (2009) Sociality and the lifemind continuity thesis, *Phenomenology and the Cognitive Sciences*, 8(4), 439 – 463

[34] Egbert, M., and Di Paolo, E. A. (2009). Adding behavior to autopoiesis: A foray in computational chemo-ethology. *Adaptive Behavior*, 17(5), 387 – 401.

[35] Barandian, X., Di Paolo, E. A., and Rohde, M. (2009). Defining agency. *Adaptive Behavior*, 17(5), 367 – 386.

[36] Di Paolo, E. A. (2009). Extended life *Topoi*, 28, 9 – 21.

[37] 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.

[38] Vickerstaff, R., and Di Paolo, E. A. (2008). Regarding compass response functions for modeling path integration. *Adaptive Behavior*, 16(4), 275 – 276.

[39] Di Paolo, E. A. (2008). A mind of many. *Constructivist Foundations*, 3(2), 89 – 91.

[40] 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.

[41] 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.

[42] Di Paolo, E. A. and Iizuka, H. (2008). How (not) to model autonomous behaviour, *BioSystems*, 91, 409 – 423.

[43] 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.

[44] 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.

[45] Barnett, L., Di Paolo, E. A., Bullock, S. (2007). Spatially embedded random networks *Physical Review E*, 76, 056115.

[46] 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.

[47] Iizuka, H. and Di Paolo, E. A. (2007). Toward Spinozist robotics: Exploring the minimal dynamics of behavioural preference. *Adaptive Behavior*, 15(4), 359 – 376.

[48] 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.

[49] Di Paolo, E. A. (2005). Autopoiesis, adaptivity, teleology, agency. *Phenomenology and the Cognitive Sciences*, 4(4), 429 – 452.

[50] Macinnes, I. and Di Paolo, E. A. (2006). The advantages of evolving perceptual cues. *Adaptive Behavior* 14(2), 147 – 156.

[51] Silver, M., and Di Paolo, E. A. (2006). Spatial factors favour the evolution of niche construction. *Theoretical Population Biology*, 70(4), 387 – 400.

[52] 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.

[53] Vickerstaff, R., and Di Paolo, E. A. (2005). Building neural models of path integration. *Journal of Experimental Biology*, 208, 3349 – 3366.

[54] Di Paolo, E. A. (2004). Unbinding biological autonomy: Francisco Varela's contributions to artificial life. *Artificial Life*, 10/3, 231 – 234.

[55] 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.

[56] 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.

[57] Rohfshagen, P. and Di Paolo, E. A. (2004). The topological origin of rhythm in asynchronous random Boolean networks. *BioSystems*, 73, 141 – 152.

[58] 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.

[59] Di Paolo, E. A. (2002). Plastic mechanisms, multiple timescales, and lifetime adaptation. *Adaptive Behavior*, 10(3/4), 141 – 142.

[60] Di Paolo, E. A. (2002) Spike timing dependent plasticity for evolved robots. *Adaptive Behavior*, 10(3/4), 243 – 263.

[61] 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.

[62] Di Paolo, E. A. (2001) Rhythmic and non-rhythmic attractors in asynchronous random Boolean networks. *BioSystems*, 59(3), 185 – 195.

[63] 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.

[64] Di Paolo, E. A. (2000) Behavioral coordination, structural congruence and entrainment in a simulation of acoustically coupled agents. *Adaptive Behavior*, 8(1), 25 – 46.

[65] Di Paolo, E. A. (1997) An investigation into the evolution of communication. *Adaptive Behavior*, 6, 285 – 324.

Books

[1] E. A. Di Paolo, T. Buhrmann, and X. E. Barandiaran (forthcoming 2017). *Sensorimotor life: An Enactive Proposal*, Oxford: Oxford University Press.

[2] E. A. Di Paolo and H. De Jaegher (Eds) *Towards an Embodied Science of Intersubjectivity: Widening the Scope of Social Understanding Research*, Lausanne: Frontiers Media, 2015.

[3] P. Vargas, E. A. Di Paolo, I. Harvey, and P. Husbands (Eds) *The horizons of evolutionary robotics*, Cambridge, MA: MIT Press, 2014.

[4] J. Stewart, O. Gapenne, and E. A. Di Paolo (Eds) *Enaction: Towards a new paradigm for cognitive science*, Cambridge, MA: MIT Press, 2010.

Book Chapters

[1] Di Paolo, E. A. (forthcoming). The enactive conception of life, in A. Newen, L. de Bruin and S. Gallagher (eds). *The Oxford Handbook of 4e Cognition*, Oxford, Oxford University Press.

[2] Di Paolo, E. A. and De Jaegher, H. (forthcoming). Neither individualistic, nor interactionist, in Durt. C and Fuchs, T. (eds). *Embodiment, Enaction, and Culture: Investiating the Constitution of the Shared World*, Cambridge, MA: MIT Press.

[3] Di Paolo, E. (2016). Enactivismo. En *Diccionario Interdisciplinar Austral*, editado por Claudia E. Vanney, Ignacio Silva y Juan F. Franck. http://dia.austral.edu.ar/Enactivismo

[4] Di Paolo, E. A. (2014). "Foreword". in M. Cappuccio and T. Froese (eds). *Enactive Cognition at the Edge of Sense-Making Making Sense of Non-Sense*, NYC: Palgrave, Macmillan.

[5] Di Paolo, E. A. and Thompson, E. (2014). "The enactive approach", in L. Shapiro, ed., *The Routledge Handbook of Embodied Cognition*, London, New York: Routledge Press, pp. 68 – 78.

[6] Di Paolo, E. A. (forthcoming). "El enactivismo y la naturalización de la mente", in D. P. Chico and M. G. Bedia (eds) *Nueva ciencia cognitiva: Hacia una teoría integral de la mente*, Madrid: Plaza y Valdes Editores.

[7] Harvey, I. and Di Paolo, E. A., (2014) "Evolutionary pathways", in P. Vargas, E. A. Di Paolo, I. Harvey and P. Husbands, *Horizons for Evolutionary Robotics*, Cambridge, MA: MIT Press, pp. 77 – 91.

[8] Vaughan, E., Di Paolo, E. A., and Harvey, I., (2014) "Incremental evolution of an omni-directional biped for rugged terrain", in P. Vargas, E. A. Di Paolo, I. Harvey and P. Husbands, *Horizons for Evolutionary Robotics*, Cambridge, MA: MIT Press, pp. 237 – 278.

[9] Wheeler, M. and Di Paolo, E. A. (2011). "Existentialism and cognitive science", in Reynolds, J., Woodward, A., and Joseph, F. (eds) *The Continuum Companion to Existentialism*, Continuum, pp. 241 – 259.

[10] 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*, Cambridge, MA: MIT Press, pp. 33 – 87.

[11] Di Paolo, E. A. (2010). "Living Technology". In *Living Technology: 5 Questions*, Mark Bedau, Pelle Guldborg Hansen, Emily Parke, Steen Rasmussen (Eds), Automatic Press/VIP, pp. 67 – 76.

[12] 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, pp. 43 – 68.

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Conference Papers, Refereed

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Invited Conference Presentations

[1] Di Paolo, E. A., (2016). Keynote speaker. "Gilbert Simondon and the enactive conception of life and mind", Alife XV, The Fifteenth International Conference on the Synthesis and Simulation of Living Systems, Cancun, Mexico, 4 – 8 July 2016.

[2] Di Paolo, E. A., (2016). "The enactive notion of life", Keynote speaker. Workshop on The Biological Foundations of Enactivism, Cancun, Mexico, 4 July 2016.

[3] Di Paolo, E. A., (2016). Agencialidad desde la perspectiva enactiva, Instituto de Investigaciones en Ciencias Humanas y Sociales (IdHICS/Fahce/UNLP/Conicet), La Plata, Argentina, 18 April 2016.

[4] Di Paolo, E. A., (2016). La hiptesis del cerebro interactivo: Avances recientes Facultad Latinoamericana de Ciencias Sociales, (FLACSO), Buenos Aires, 14 April 2016.

[5] Di Paolo, E. A., (2016). Participatory Object Perception, Sociedad Argentina de Anlisis Filosfico (SADAF), Buenos Aires, 5 April 2016.

[6] Di Paolo, E. A., (2016). Participatory Object Perception, IAS-Research Seminar, UPV/EHU, San Sebastin, 26 February 2016

[7] Di Paolo, E. A., (2014). "Enactivism Moving forward: Language and the Human Self". Conference on Enacting Culture: Embodiment, Interaction and the Development of Human Culture, Heidelberg, October 15-17, 2014.

[8] Di Paolo, E. A., (2014). "Participatory sense-making and heteronomies", Workshop on Interacting Complexity: Cognition and Communication in Conflict Transformation, San Sebastin, May 1-3, 2014.

[9] Di Paolo, E. A., (2013). "El cuerpo en el enactivismo y otros enfoques", Sociedad Argentina de Anlisis Filosfico (SADAF), Buenos Aires, 21 May 2013.

[10] Di Paolo, E. A., (2013). "La hiptesis del cerebro interactivo: el rol constitutivo de las interacciones sociales en la intersubjetividad", Facultad Latinoamericana de Ciencias Sociales, (FLACSO), Buenos Aires, 20 May 2013.

[11] Di Paolo, E. A., (2013)."Intersubjetividad y participacin: La cognicin social corporizada desde el paradigma enactivo" I Encuentro de Filosofa de las Ciencias Cognitivas y del Comportamiento, Universidad Nacional de Crdoba, 14 May 2013.

[12] Di Paolo, E. A., (2013)."El enfoque enactivo en ciencias cognitivas: Hacia un naturalismo no funcionalista y corporizado" I Encuentro de Filosofa de las Ciencias Cognitivas y del Comportamiento, Universidad Nacional de Crdoba, 13 May 2013.

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[14] Di Paolo, E. A., (2013). "The enactive body". Seminar From perceptual interaction to extended cognition Université de Technologie de Compiègne, Jan 22-25.

[15] Di Paolo, E. A., (2013). "Not one, not two (reloaded)". II ReteCog Workshop. Interaction. University of Zaragoza, Jan 17-19

[16] Di Paolo, E. A., (2012). "Agency, incorporation and non-individuals: Time and precariousness in networked individuality". Workshop on Autonomy and Individual Organisms in Biology, San Sebastián, Oct 27-28.

[17] Di Paolo, E. A., (2012). "The enactive body Where life, mind and society intersect", Mind and Life Summer Research Institute, Garrison Institute, Garrison, New York, June 16-22.

[18] Di Paolo, E. A., (2012). "Walking circles around a problem: The parallax epistemology of enactivism", Embodying intersubjectivity research TESIS summer school, San Sebastián, May 14-18.

[19] De Jaegher, H. and Di Paolo, E. A., (2011). "Participatory sense-making, Intersubjectivity from Birth for Life: A Celebration for Colwyn Trevarthen, University of Edinburgh, Oct 15, 2011.

[20] Di Paolo, E. A., (2011). "The Future of the Embodied Mind, Introductory talk at The Future of the Embodied Mind Summer School, 5-6 Sept. 2011, San Sebastián, Spain.

[21] Di Paolo, E. A., (2011). "What is the enactive body?, Collegium for Advanced Study of Picture Act and Embodiment, Berlin.

[22] Di Paolo, E. A., (2011). "The mind in-between: Can social interaction constitute social cognition?, The Whitehead lectures in Cognition, Computation and Culture, Goldsmiths College, London.

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[25] Di Paolo, E. A., (2010). "Extended Life, First European Summer School on Life & Cognition, Miramar Palace, Donostia-San Sebastián, 22nd 26th June, 2010.

[26] Di Paolo, E. A., (2010). "Lo hemos resuelto pero no sabemos cómo, GIGA group seminar, University of Zaragoza, Spain, May 2010.

[27] Di Paolo, E. A., (2010). "El rol del cuerpo en el estudio de la mente, Conferencias iberCaja, Zaragoza, Spain, May 2010.

[28] Di Paolo, E. A., (2010). "El enfoque enactivo en ciencias cognitivas, Centro Cultural iberCaja, Huesca, Spain, May 2010.

[29] Di Paolo, E. A., (2010). "The mind in-between: Can social interaction constitute social cognition?, COGS Seminar, University of Sussex, Feb, 2010.

[30] Di Paolo, E. A., and De Jaegher, H. (2010). "Does social interaction constitute social cognition?" Conference on Dynamic models of social interaction, University of Aarhus, Jan 2010.

[31] 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.

[32] Di Paolo, E. A., (2009). "Enactive perception: Beyond the sensorimotor approach", Philosophy of Perception Conference, University of Tokyo, Japan, March 5-7th, 2009.

[33] 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.

[34] Di Paolo, E. A., (2008) "Agency and time", Agency Workshop, Kyoto, Japan, July 17th, 2008.

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