

Curriculum Vitae

Alessio Plebe

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Department of Cognitive Science
via Concezione 8
University of Messina, Italy
aplebe@unime.it

Higher Education

- 2003: PhD in Philosophy of Language, University of Palermo.
- 1981: M.S. in Electronic Engineering, University of Rome.

Professional Positions

- 2021–present: Full Professor M-FIL/02, Department of Cognitive Science, University of Messina, Italy.
- 2015–present: Associate Professor M-FIL/02, Department of Cognitive Science, University of Messina, Italy.
- 2005–2014: Associate Professor INF-01, Department of Cognitive Science, University of Messina, Italy.
- 2002–2005: Researcher ING/INF-05, Department of Cognitive Science, University of Messina, Italy.
- 2001–2002: Fellow Researcher (assegnista di ricerca), Department of Mathematics and Computer Science, University of Catania, Italy.
- 1990–2000: Senior Researcher, Department of Robotics and Artificial Intelligence, CRAM (Consorzio per la Ricerca in Agricoltura nel Mezzogiorno), Catania, Italy.
- 1982–1989: Researcher, Image Processing Group, AID (Agriculture Industrial Development) SpA Catania - Italy.

Areas of Specialization

- *Artificial Neural Networks* with particular emphasis on ANNs as models of higher cognitive functions, such as vision, language, and morality, including collaboration to neural simulator projects such as *Topographica* lead by University of Edinburgh.
- *Philosophy of Science* with particular emphasis on the philosophy of cognitive science, neuroscience, and artificial intelligence.
- *Philosophy of Language* with particular emphasis on the semantics of visual objects, the emergence of language in the brain, and linguistic relativism.

Academic Appointments

- 2002–present Member of the Doctorate School in Cognitive Science, University of Messina.
- 2015–2018 Coordinator of the M.S. Degree in Cognitive Science and Communication (LM55–LM92), University of Messina.
- 2013–2017 University of Messina Rector’s delegate for e-learning.

Research Support

- 2016–2018 Project PRIN *Performativity, Perception and Cognitive Sciences*.
- 2015–2017 Project H2020 – PON ADI (*Artificial Design Intelligence*).
- 2010–2012 Project POR FESR IPSE (*Industry Process Safety Engineering*).
- 2008–2010 Project POR FESR SafeMod (*Safety Modeling for High Risk Industrial Application*).
- 2002–2004 Project MIUR SEME (*Dizionario Visuale multilingua per i beni etno-demo-antropologici*).
- 1995–1997 ESPRIT 94529420670 PREFER (*Parallel Realtime Evaluation of Fruit based on European Research*), this project has been selected as *ESPRIT - Success Stories* in 1997.
- 1993–1995 ESPRIT 6715 CONNY (*Robot Control based on Neural Network Systems*).
- 1992–1994 ESPRIT 5293 GALATEA (*Neurocomputing*).
- 1991–1994 Project MURST PR/8, D.M. n. 6777 *Robot per la raccolta automatica di agrumi*.

Selected Publications

Chiara Lucifora, Giorgio M. Grasso, Pietro Perconti, and Alessio Plebe. Moral reasoning and automatic risk reaction during driving. *Cognition, Technology & Work*, <https://doi.org/10.1007/s10111-021-00675-y>, 2021.

Pietro Perconti and Alessio Plebe. Deep learning and cognitive science. *Cognition*, 203:Article 104365, 2020.

Alessio Plebe. Circuitual and developmental explanations for the cortex. In Fabrizio Calzavarini and Marco Viola, editors, *Neural Mechanisms – New Challenges in the Philosophy of Neuroscience*, pages 57–81. Springer, Berlin, 2020.

Alessio Plebe and Pietro Perconti. Plurality: The end of singularity? In Andrey V. Korotayev and David J. LePoire, editors, *The 21st Century Singularity and Global Futures – A Big History Perspective*, pages 163–184. Springer, Berlin, 2020.

Alessio Plebe and Giorgio Grasso. The unbearable shallow understanding of deep learning. *Minds and Machines*, 29:515–553, 2019.

Gabriella Airenti, Marco Cruciani, and Alessio Plebe, editors. *The Cognitive Underpinnings of Anthropomorphism*. Frontiers Media, Lausanne, 2019.

Alessio Plebe and Vivian M. De La Cruz. Neural representations in context. In Antonino Pennisi and Alessandra Falzone, editors, *The Extended Theory of Cognitive Creativity – Interdisciplinary Approaches to Performativity*, pages 285–300. Springer, Berlin, 2020.

Giorgio Grasso, Pietro Perconti, and Alessio Plebe. Assessing social driving behavior. In Waldemar Karwowski and Tareq Ahram, editors, *2th International Conference on Intelligent Human Systems Integration*, pages 111–115, 2019.

- Alessio Plebe. The search of “canonical” explanations for the cerebral cortex. *History and Philosophy of the Life Sciences*, 40:40–76, 2018.
- Alessio Plebe and Vivian M. De La Cruz. Neural representations beyond “plus X”. *Minds and Machines*, 28: 93–117, 2018.
- Domenica Bruni, Pietro Perconti, and Alessio Plebe. Anti-anthropomorphism and its limits. *Frontiers in Psychology*, 9:2205, 2018.
- Alessio Plebe. Cognition and computation. *Italian Journal of Cognitive Science*, 14:281–286, 2018.
- Gabriella Airenti and Alessio Plebe. Editorial: Context in communication: A cognitive view. *Frontiers in Psychology*, 8:115, 2017.
- Alessio Plebe and Giorgio Grasso. How “learning” become “deep”. In *4th International Conference on the History and Philosophy of Computing*, 2017.
- Alessio Plebe and Vivian M. De La Cruz. *Neurosemantics – Neural Processes and the Construction of Linguistic Meaning*. Springer, Berlin, 2016.
- Alessio Plebe and Marco Mazzone. Neural plasticity and concepts ontogeny. *Synthese*, 193:3889–3929, 2016.
- Alessio Plebe. What is ‘wrong’ in a neural model. *Cognitive Systems Research*, 39:4–14, 2016.
- Alessio Plebe and Giorgio Grasso. The brain in silicon: History, and skepticism. In Fabio Gadducci and Mirko Tamosanis, editors, *History and Philosophy of Computing*, pages 273–286. Springer, Berlin, 2016.
- Alessio Plebe and Vivian M. De La Cruz. Language and brain complexity. In Francesco La Mantia, Ignazio Licata, and Pietro Perconti, editors, *Language in Complexity*, pages 169–199. Springer, Berlin, 2016.
- Iaakov Exman and Alessio Plebe. Software is part poetry, part prose. In Ana Fred, Jan L.G. Dietz, David Aveiro, Kecheng Liu, and Joaquim Filipe, editors, *Knowledge Discovery, Knowledge Engineering and Knowledge Management*, pages 365–380. Springer, 2016.
- Alessio Plebe. Neurocomputational model of moral behaviour. *Biological Cybernetics*, 109:685–699, 2015.
- Alessio Plebe and Vivian De La Cruz. When language shapes perception. *Rivista Italiana di Filosofia del Linguaggio*, 2:42–57, 2015.
- Iaakov Exman and Alessio Plebe. Software, is it poetry or prose? conceptual content at the higher abstraction levels. In *Proceedings of the 6th International Workshop on Software Knowledge*, pages 9–17. Scitepress, 2015.
- Alessio Plebe, Vivian M. De La Cruz, and Marco Mazzone. In learning nouns and adjectives remembering matters: A cortical model. In Aline Villavencencio, Thierry Poibeau, Anna Korhonen, and Afra Alishahi, editors, *Cognitive Aspects of Computational Language Acquisition*, pages 105–129. Springer, Berlin, 2013.
- Alessio Plebe and Pietro Perconti. The slowdown hypothesis. In Amnon H. Eden, James H. Moor, Johnny H. Søraker, and Eric Steinhart, editors, *Singularity Hypotheses*. Springer, Berlin, 2013.
- Alessio Plebe, Vivian M. De La Cruz, and Marco Mazzone. A neural model of adjective acquisition. In Krzysztof Kosecki and Janusz Badio, editors, *Cognitive Processes in Language*, pages 225–236. Peter Lang, Berlin, 2012.
- Alessio Plebe. A model of the response of visual area V2 to combinations of orientations. *Network: Computation in Neural Systems*, 23:105–122, 2012.
- Alessio Plebe, Marco Mazzone, and Vivian M. De La Cruz. A biologically inspired neural model of vision-language integration. *Neural Network World*, 21:227–249, 2011.

- Alessio Plebe. La rilevazione di coincidenze nella costruzione di categorie. *Sistemi Intelligenti*, 3:477–484, 2010.
- Alessio Plebe, Marco Mazzone, and Vivian M. De La Cruz. First words learning: A cortical model. *Cognitive Computation*, 2:217–229, 2010.
- Alessio Plebe and Pietro Perconti. Qualia turing test – designing a test for the phenomenal mind. In Aladdin Ayesh, Mark Bishop, Luciano Floridi, and Kevin Warwick, editors, *Proceedings of the Towards a Comprehensive Intelligence Test (TCIT): Reconsidering the Turing Test for the 21st Century Symposium*, pages 16–19, Leicester (UK), 2010. The Society for the Study of Artificial Intelligence and the Simulation of Behaviour.
- Alessio Plebe. *Neuroni immateriali*. university press. Editori Riuniti, Roma, 2009.
- Marco Mazzone, Vivian M. De La Cruz, and Alessio Plebe. Una simulazione biologicamente orientata dell’apprendimento di aggettivi: tra categorizzazione e concettualizzazione. *Sistemi Intelligenti*, 20:293–305, 2008.
- Alessio Plebe and Vivian M. De La Cruz, editors. *Philosophy in the Neuroscience Era*. Squilibri, Roma, 2008.
- Alessio Plebe and Rosaria Grazia Domenella. Object recognition by artificial cortical maps. *Neural Networks*, 20: 763–780, 2007.
- Alessio Plebe. A neural model of object naming. *Enformatika*, 2:130–135, 2007.
- Alessio Plebe. A model of angle selectivity development in visual area V2. *Neurocomputing*, 70:2060–2066, 2007.
- Alessio Plebe and Rosaria Grazia Domenella. Early development of visual recognition. *BioSystems*, 86:63–74, 2006.
- Alessio Plebe. Learning visual invariance. In Michel Verleysen, editor, *ESANN 2006 – 14th European Symposium on Artificial Neural Networks*, pages 71–76, Evere (BE), 2006. d-side Publications.
- Rosaria Grazia Domenella and Alessio Plebe. Can vision be computational? In Lorenzo Magnani and Riccardo Dossena, editors, *Computing, Philosophy, and Cognition*, pages 361–379, London, 2005. College Publications.
- Alessio Plebe and Rosaria Grazia Domenella. The emergence of visual object recognition. In Włodzisław Duch, Janusz Kacprzyk, Erkki Oja, and Sławomir Zadrony, editors, *Artificial Neural Networks – ICANN 2005 15th International Conference, Warsaw*, pages 507–512, Berlin, 2005. Springer.
- Alessio Plebe. *Il linguaggio come calcolo – dalla logica di Boole alle reti neurali*. SCIENTIA. Armando Editore, Roma, 2004.
- Alessio Plebe, A. M. Anile, and S. Rinaudo. Neural networks in circuit simulators. In G. Dorffner, H. Bischof, and K. Hornik, editors, *Artificial Neural Networks – ICANN 2001 International Conference, Vienna, Austria, August 2001*, pages 699–705, Berlin, 2001. Springer.
- Alessio Plebe and Marcello Anile. A neural-network-based approach to the double traveling salesman problem. *Neural Computation*, 14(2):437–471, 2001.
- Alessio Plebe and Giorgio Grasso. Localization of spherical fruits for robotic harvesting. *Machine Vision and Applications*, 13(2):70–79, 2001.
- Alessio Plebe, A. M. Anile, and S. Rinaudo. Neural networks with higher level architecture for bipolar device modeling. In A. M. Anile, V. Capasso, and A. Greco, editors, *Progress in Industrial Mathematics at ECMI 2000*, pages 252–257, Berlin, 2002. Springer.
- M. Recce, Alessio Plebe, J. Taylor, and G. Tropiano. Video grading of oranges in real time. *Artificial Intelligence Review*, 12(1-3):117–136, 1998.
- Salvatore Cavalieri and Alessio Plebe. Manipulator adaptive control by neural networks in an orange picking robot. *International Journal of Neural Systems*, 7(6):735–755, 1996.



Cognome PLEBE
 Nome ALESSIO
 nato il 10/10/1956
 (atto n. 522 p. 1 S. A)
 a. CASALE MONFERRATO (AL)
 Cittadinanza ITALIANA
 Residenza CATANIA (CT)
 Via ACICASTELLO Nr. 15 Sc. C Pl. 1
 Stato civile Coniugato
 Professione INGEGNERE

CONNOTATI E CONTRASSEGNI SALIENTI

Statura 1,82
 Capelli BRIZZOLATI
 Occhi CASTANO CHIARI
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