

Curriculum vitae

PERSONAL INFORMATION



Vito Pirrelli

Affiliation:

Italian National Research Council (CNR)
Institute for Computational Linguistics "A. Zampolli" (ILC)
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Date of birth 1 November 1961 | Nationality Italian

CURRENT POSITION **EPR: Research Director**

WORK EXPERIENCE

2013 *pro-term* Institute Director

Institute for Computational Linguistics
v. Moruzzi 1, 56124, Pisa (Italy)

- Research Management and coordination
- Administration of public research body

Business or sector Public Research Body

January 2003 – today **EPR: Research Manager (CNR first level researcher)**

Institute for Computational Linguistics
v. Moruzzi 1, 56124, Pisa (Italy)

- coordination of national and international research projects as Principal Investigator
- responsibility and coordination of lab activities in the following areas: machine language learning, AI, psycho-computational models of language usage, word acquisition and processing, language disorders, computer models of memory and serial cognition.
- workshop and conference organization.

Business or sector Public Research Body

June 2001 - December 2002 **EPR: Senior Researcher (CNR second level researcher)**

Institute for Computational Linguistics
v. Moruzzi 1, 56124, Pisa (Italy)

- coordination of, and participation in national and international research projects
- responsibility and coordination of lab activities in the following areas: machine language learning, AI, psycho-computational models of language usage, word acquisition and processing, language disorders, computer models of memory and serial cognition
- workshop and conference organization.

Business or sector Public Research Body

March 1994 - May 2001 **EPR: Junior Researcher (CNR first level researcher)**

Institute for Computational Linguistics
v. Moruzzi 1, 56124, Pisa (Italy)

- Participation in national and international research projects
- responsibility of lab activities in the following areas: NLP, machine language learning, artificial neural networks, machine translation, corpus annotation, knowledge acquisition.

Business or sector Public Research Body

April 1989 - December 1990 **Research assistant**
 University of Salford (UK)
 – Participation in European research project on machine translation
 – teaching
 – mainframe management.
Business or sector Public Education Institution

EDUCATION AND TRAINING

1989–1993 **PhD in Computational Linguistics - Thesis Title: “Morphology, Analogy and Machine Translation”**
 University of Salford, UK

1981–1985 **Laurea degree in Computational Linguistics - Dissertation Title: “Multi-dimensional Scaling for linguistic text analysis”**
 Faculty of Humanities, Università degli Studi di Pisa (Italy)

MERITS

Awards **Elected Member of the *Accademia Europaea*** (no. 5715/2021: following a peer review by the relevant Class Committee)
 London, UK

CNR Social Sciences and Humanities 2011 Best Paper Award: “Learning paradigms in time and space: computational evidence from Romance languages”
 Rome, Italy

CNR 2007 blue skies research Award: “Acquisition of Common Sense facts for Inference and Planning”
 Rome, Italy

Editorial activities **Co-editor in chief of *the Mental Lexicon*** <https://benjamins.com/catalog/ml>
 John Benjamins, the Netherlands

Co-editor in chief of *Lingue e Linguaggio* <https://www.mulino.it/riviste/issn/1720-9331>
 il Mulino, Italy

Invited presentations

I delivered 12 keynotes and over 30 invited talks at a number of international conferences and academic institutions, including Coling, IEEE-CIST, the International Morphology Meeting, the Mediterranean Morphology Meeting, Trinity College (Oxford, UK), Johns Hopkins University (Baltimore, USA), Collegio Ghislieri (Pavia, Italy), Scuola Normale Superiore (Pisa, Italy) and the British Academy (London, UK).

Grants awarded as PI **Age diseases Spoke_8_ILC (2023-2024)**
 PRR.AP021.003.005: €155,000
Business or sector Machine learning models for automated classification of preclinical stages of cognitive decline

Grants awarded as PI **ReadGround (2021-2023)**

CNR-funded project: €73,130

Business or sector A cloud-based platform for distance monitoring and potentiation of early graders' reading skills with serious games**ReadLet (2019-2023)**

PRIN - Italian Ministry of University and Research: €364,530

Business or sector An ICT-driven, large-scale investigation of early grade children's reading strategies**NetWordS (2011-2015)**

European Science Foundation: €601,000

Business or sector Cross-disciplinary approaches to understanding word structure in the Mental Lexicon**Paisà (2011-2013)**

FIRB - Italian Ministry of Education, University and Research: €328,500

Business or sector An online platform for corpus-based learning of Italian as L2

PERSONAL SKILLS

Mother tongue Italian

Other languages

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C2	C2	C2
French	B2	C1	B2	B2	B2

Levels: A1 and A2: Basic user – B1 and B2: Independent user – C1 and C2: Proficient user
[Common European Framework of Reference for Languages](#)

Job-related skills

- research interests: my main research focus is on fundamental issues of language architecture and physiology, lying at the interdisciplinary crossroad of cognitive linguistics, psycholinguistics, neuroscience and information science. My research output reaches out to societal outcomes and education activities, with particular emphasis on using theoretical and computational language models for more effective language teaching and assessment practices, and for diagnosing language and cognitive disorders.
- educational skills: I taught Computational Linguistics at the University of Pavia, Lexical Semantics at the University of Bologna, and General Linguistics at Salford University; currently, I teach Computational Psycholinguistics at the University of Pisa; as Principal Investigator of the Paisà project (2011-2013), I coordinated the development of the first annotated Corpus of online contemporary Italian for language teaching, of over 250 million tokens (<https://www.corpusitaliano.it>).

Organisational / managerial skills

- as chair of NetWordS (2011-2015), I directed an international, interdisciplinary research programme on the Mental Lexicon involving 16 countries and more than 40 European labs (<http://www.networds-esf.eu/>). I chaired two Summer schools, three workshops, a final conference, five calls for research grants, four journal special issues, one online proceedings publication and one open-access edited volume (<https://doi.org/10.1515/9783110440577>), engaging more than 360 participants, also from countries beyond Europe, such as Australia, Canada, Ethiopia, Iran, South Africa and the USA
- I am the founder and current head of the Communication Physiology Lab (<http://www.comphyslab.it>)
- In 2013, I directed the CNR Institute for Computational Linguistics as *pro term* director.

- Computer skills**
- C/C++
 - R, Matlab
 - Latex, HTML
 - competent with most Microsoft Office and Google applications

- Professional certificates**
- Habilitation for CNR Institute Direction (Bando no. 364.325 ILC, 2019)
 - Habilitation for CNR Institute Direction (Bando no. 364.137 ILC, 2013)

ADDITIONAL INFORMATION

- Publications**
- Editor of 6 volumes and 9 special issues in international journals
 - Author of over 150 peer-reviewed publications
 - H-Index 24 (source: Google Scholar)
 - Citations: 2206

- Conference area chairs**
- 2020 - Morphology and Word Segmentation (Coling 2020)
 - 2017 - 4th Italian Conference on Computational Linguistics (CLiC-it 2017)
 - 2016 - 3rd Italian Conference on Computational Linguistics (CLiC-it 2016)
 - 2014 - 1st Italian Conference on Computational Linguistics (CLiC-it 2014)

- Conference chairs**
- 2020 - Machine Learning & Natural Language Processing (IEEE-CIST 2020)
 - 2018 - Machine Learning & Natural Language Processing (IEEE-CIST 2018)
 - 2015 - NetWordS 2015 (Scuola Normale Superiore Pisa, 30/03-1/04/2015)

- Projects**
- 8 international projects
 - 9 national projects

LIST OF SELECTED PUBLICATIONS

- [1] Claudia Marzi, Antonio Narzisi, Annarita Milone, Gabriele Masi, and **Vito Pirrelli**. “Reading behaviors through patterns of finger-tracking in Italian children with autism spectrum disorder”. In: *Brain sciences* 12 (2022), pp. 1–17.
- [2] Davide Crepaldi, Marcello Ferro, Claudia Marzi, Andrea Nadalini, **Vito Pirrelli**, and Loukia Taxitari. “Finger movements and eye movements during adults’ silent and oral reading”. In: *Developing language and literacy: Studies in honor of Dorit Diskin Ravid*. Ed. by R. Levie, A. Bar-On, O. Ashkenazi, E. Dattner, and G. Brandes. Springer, 2022, pp. 1–31.
- [3] Michael Zock, Simon De Deyne, Massimo Stella, and **Vito Pirrelli**. “The Mental Lexicon, Blueprint of the Dictionaries of Tomorrow: Cognitive Aspects of the Lexicon”. In: *Frontiers in Artificial Intelligence* (2022). URL: <https://doi.org/10.3389/frai.2022.945705>.
- [4] **Vito Pirrelli**, Horacio Rodriguez, and Aرسالane Zarghili. “Machine Learning and Natural Language Processing. An editorial”. In: *International Journal of Information Science and Technology* 6.3 (2022), pp. 1–3.
- [5] Claudia Marzi and **Vito Pirrelli**. “Psycholinguistic Research on Inflectional Morphology in the Romance Languages”. In: *Oxford Encyclopedia of Romance Linguistics*. Ed. by Michele Loporcaro. Oxford University Press, 2022, pp. 1–44.
- [6] Loukia Taxitari, Claudia Cappa, Marcello Ferro, Claudia Marzi, Andrea Nadalini, and **Vito Pirrelli**. “Using mobile technology for reading assessment”. In: *Proceedings of 6th IEEE Congress on Information Science & Technology (IEEE CiST’20)*. Agadir, Morocco, 2021.
- [7] Claudia Marzi, Anna Rodella, Andrea Nadalini, Loukia Taxitari, and **Vito Pirrelli**. “Does finger-tracking point to child reading strategies?” In: *Proceedings of 7th Italian Conference on Computational Linguistics*. Ed. by J. Monti, F. Dell’Orletta, and F. Tamburini. Vol. 2769. Bologna, 2020.

- [8] **Vito Pirrelli**, Claudia Marzi, Marcello Ferro, Franco Alberto Cardillo, Harald R. Baayen, and Petar Milin. “Psycho-computational modelling of the mental lexicon. A discriminative learning perspective”. In: *Word knowledge and word usage. A cross-disciplinary guide to the mental lexicon*. Ed. by V. Pirrelli, I. Plag, and U. W. Dressler. Mouton De Gruyter, 2020, pp. 23–82.
- [9] **Vito Pirrelli**, Ingo Plag, and U. Wolfgang Dressler, eds. *Word knowledge and word usage. A cross-disciplinary guide to the mental lexicon*. Mouton De Gruyter, 2020.
- [10] **Vito Pirrelli**. “Morphological Theory And Computational Linguistics”. In: *The Oxford Handbook of Morphological Theory*. Ed. by J. Audring and F. Masini. Oxford: Oxford University Press, 2018, pp. 573–593.
- [11] Marcello Ferro, Claudia Marzi, and **Vito Pirrelli**. “Discriminative word learning is sensitive to inflectional entropy”. In: *Lingue e Linguaggio* 17.2 (2018), pp. 307–327.
- [12] Marcello Ferro, Claudia Cappa, Sara Giulivi, Claudia Marzi, Ouaphae Nahli, Franco Alberto Cardillo, and **Vito Pirrelli**. “ReadLet: Reading for Understanding”. In: *Proceedings of 5th IEEE Congress on Information Science & Technology (IEEE CiST'18)*. Marrakech, Morocco, 2018.
- [13] Claudia Marzi, Marcello Ferro, Franco Alberto Cardillo, and **Vito Pirrelli**. “Effects of frequency and regularity in an integrative model of word storage and processing”. In: *Italian Journal of Linguistics* 28.1 (2016), pp. 79–114.
- [14] Claudia Marzi and **Vito Pirrelli**. “A neuro-computational approach to understanding the mental Lexicon”. In: *Journal of Cognitive Science* 16.4 (2015), pp. 493–535.
- [15] **Vito Pirrelli**, Marcello Ferro, and Claudia Marzi. “Computational complexity of abstractive morphology”. In: *Understanding and Measuring Morphological Complexity*. Ed. by Matthew Baerman, Dustan Brown, and Greville G Corbett. Oxford: Oxford University Press, 2015, pp. 141–166.
- [16] Claudia Marzi, Marcello Ferro, and **Vito Pirrelli**. “Morphological structure through lexical parsability”. In: *Lingue e Linguaggio* 13.2 (2014), pp. 263–290.
- [17] Fabian Chersi, Marcello Ferro, Giovanni Pezzulo, and **Vito Pirrelli**. “Topological Self-Organization and Prediction Learning Support Both Action and Lexical Chains in the Brain”. In: *Topics in Cognitive Science* 6.3 (2014), pp. 476–491.
- [18] Marcello Ferro, Claudia Marzi, and **Vito Pirrelli**. “A self-organizing model of word storage and processing: implications for morphology learning”. In: *Lingue e Linguaggio* 10.2 (2011), pp. 209–226.
- [19] Marcello Ferro, Dimitri Ognibene, Giovanni Pezzulo, and **Vito Pirrelli**. “Reading as active sensing: a computational model of gaze planning during word recognition”. In: *Frontiers in Neurobotics* 4 (2010), p. 6.
- [20] **Vito Pirrelli**. *Paradigmi in morfologia. Un approccio interdisciplinare alla flessione verbale dell'italiano*. Pisa: Istituti Editoriali e Poligrafici Internazionali, 2000.

According to law 679/2016 of the Regulation of the European Parliament of 27th April 2016, I hereby express my consent to process and use my data as provided in this CV.

Vito Pirrelli



Pisa, 12/12/2022