

Curriculum vitae

• EDUCATION

- 2014 PhD in Linguistics (Applied, Computational, Acquisitional Linguistics curriculum)
Scuola Tematica di Dottorato in Scienze Umanistiche - XXVII Cycle, University of Pavia Italy. PhD Supervisor(s): Marina Chini (Univ. of Pavia), Vito Pirrelli (ILC-CNR, external supervisor).
1998 Master Degree in Modern Languages (*Lingue e letteratura Straniere*), University of Pisa Italy.

• CURRENT POSITION

- 1.01.2021 – present: Senior Researcher, Institute for Computational Linguistics of the National Research Council of Italy (ILC-CNR), Pisa (I). Permanent position.

• PREVIOUS POSITION

- 14.04.2008 – 31.12.2020: Researcher, Institute for Computational Linguistics of the National Research Council of Italy (ILC-CNR), Pisa (I). Permanent position

• FELLOWSHIPS AND AWARDS

- 06.12.2016: Distinguished young paper Award for the conference paper Reassessing inflectional regularity in Modern Greek conjugation, CLiC-it 2016, to Bompolas S., Ferro M., Marzi Claudia, Pirrelli V.
21.10.2014: Best Doctoral Paper Awarded to Marzi Claudia for the conference paper Word Processing for Arabic Language. A reappraisal of morphology induction through adaptive memory self-organisation strategies at IEEE CIST 2014, Marzi Claudia, O. Nahli, M. Ferro.
10/06/2013 - 27/03/2014: *Lexical acquisition in bilingual contexts: aspects of (extra)linguistic and psycholinguistic modelling*. Short Visit Grant to Claudia Marzi n. 5590: bilateral action within the ESF NetWordS project (European Network on Word Structure: Cross-disciplinary Approaches to Understanding Word Structure in the Languages of Europe). Host institution Ghent University, Dr. Emmanuel Keuleers.

• SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS

- 20 Oct 2020 – present: supervisor of a junior research grantee on *Recognition, analysis, classification of child speech in the early school age*, funded under the “Readlet project - an ICT-driven, large-scale investigation of early grade children’s reading strategies”, ILC-CNR Pisa (I)
17 Feb 2020 – present: supervisor of a post-doc grant fellow on *Reading for understanding*, funded under the “Readlet project - an ICT-driven, large-scale investigation of early grade children’s reading strategies”, ILC-CNR Pisa (I)
15 Dec 2015 – 15 Jun 2017: supervisor of a post-doc grant fellow on *Highly computationally efficient artificial neural networks for the simulation of psycho-cognitive models of working memory and perception*, funded under The European Network on word structure – NETWORKS, ILC-CNR Pisa (I). Since 2020 the grantee is a permanent researcher at ILC-CNR.
Jan 2021 – present: supervisor of MA thesis on “A recurrent neural network approach to derivational complexity: the case of Italian derivatives” - (to be discussed), Master Degree in Digital Humanities, University of Pisa (I).
May 2020 – 26 Apr 2021: supervisor of MA thesis on “Reading models and finger tracking” - (110/110 cum laude), Master Degree in Digital Humanities, University of Pisa (I).
Mar 2019 – 21 Nov 2019: supervisor of MA thesis on “Computational modelling the interaction of regularity and morphological structure: the case of Russian verb inflection as L1 and L2” - (110/110 cum laude), Master Degree in Digital Humanities, University of Pisa (I).
Jan 2017 – 24 Jul 2017: external supervisor of MA thesis on “Modelling second language acquisition and processing with Self-Organising Maps” - (100/100), Master Degree in Languages and Technologies (Master en Linguas y Tecnologias), University of Valencia (ES).

• TEACHING ACTIVITIES

- Oct 2019 – present: external/adjunct professor, course in *Computational Psycholinguistics*, Master Degree in Digital Humanities, University of Pisa, Italy. From 2021, responsible for the course.
7-9 August 2014: Advance methodological course on “Connectionist architectures for lexical modelling” within the ESF-NetWordS project 2nd Summer School, Trondheim, Norway.

• ORGANISATION OF SCIENTIFIC MEETINGS

- Sept 2019 – 8 Feb 2020: co-chair of the workshop on *Implications of psycho-computational modelling for Morphological Theory* (PsycomMT2020) – 19th International Morphology Meeting (6-8 Feb 2020).

- 30 Mar – 1 Apr 2015: Convenor and organiser of the NetWords Final Conference on *Word Knowledge and Word Usage: Representations and Processes in the Mental Lexicon*, Pisa (I) – 91 participants.
- 19-20 Sept 2013: Organiser of the 3rd NetWords Workshop on *Variation and Adaptation in Lexical Processing and Acquisition*, Dubrovnik (HR) – 30 participants.
- 3-4 Dec 2012: Organiser of the 2nd NetWords Workshop on *Perspective on Synergy*, Toulouse, (F) 27 parts.
- 24-26 Nov 2011: Organiser of the 1st NetWords Workshop on *Understanding the Architecture of the Mental Lexicon: Integration of Existing Approaches*, Pisa (I) – 37 participants.

- **INSTITUTIONAL RESPONSIBILITIES**

- Dec 2018 – present: leader of the CNR research project “Bio-computational models of lexical usage”.
- Sept 2016 – present: leader of the CNR project for ILC-CNR personnel “training programs”.
- Apr 2012 – present: Co-founder and member of the Research Laboratory for *Communication Physiology* (<http://www.comphyslab.it>), an interdisciplinary lab within the collaboration of the Institute for Computational Linguistics and the Institute of Clinical Physiology, CNR (I).
- Jan 2020 – present: leader of Objective n. 2 for the “Readlet project - an ICT-driven, large-scale investigation of early grade children’s reading strategies”, i.e. quantitative and psycho-computational modelling for reading strategies of typically and atypically developing children.
- Nov 2017 – Jan 2020: leader of the training activities, analysis and dissemination of the results, within the project *Regione Toscana* “SchoolChain – innovative solutions for the creation, certification, reuse and sharing of digital teaching units within the school-system”.
- Jan 2015 – Dec 2018: leader of the CNR research project “Interdisciplinary approaches to theoretical and computational models of lexical acquisition in mono- and multi-lingual contexts”.
- Jan 2013 – Dec 2014: leader of the CNR research project “Theoretical and computational models of lexical acquisition in mono- and multi-lingual contexts”.
- May 2011 – Apr 2015: Project coordinator of the European Science Foundation project “The European Network on word structure - NETWORKS”.

- **REVIEWING ACTIVITIES**

- Mar 2016 – present: Scientific Advisory Board, Institute for Computational Linguistics of the CNR (Italy).
- Feb 2019 – present: Scientific Board, *Lingue e Linguaggio* - international journal, ISSN 1720-9331
- Jan 2013 – present: ministerial evaluation panel member (Membro dell’Albo dei Revisori MIUR) - REPRIME (register expert peer reviewer for Italian Scientific Evaluation) – SH area.
- Jan 2021: Scientific evaluator, European Language Grid (ELG) – 2nd Open call for pilot projects.
- Jan 2021 – present: Topic editors board, *Electronics* – MDPI international journal, ISSN 2079-9292.
- Jul 2020 – present: reviewing board, *Information* – MDPI international journal, ISSN 2078-2489.
- May 2020 – present: reviewing board, *Algorithms* – MDPI international journal, ISSN 1999-4893.
- Apr 2020 – present: reviewing board, *Applied Science* – MDPI international journal, ISSN 2076-3417.
- Jan 2019 – present: reviewing board, *Sensors* – MDPI international journal, ISSN 1424-8220.
- Feb 2018 – present: reviewer, *Information Sciences* – Elsevier journal, ISSN 0020-0255.
- March 2021 – present: reviewer, *Frontiers in Psychology* – Frontiers Media S.A., ISSN 1664-1078.

- **MEMBERSHIPS OF SCIENTIFIC SOCIETIES**

- 2021 – present Member of AItLA, Italian Association for Applied Linguistics.
- 2021 – present Member of AILC, Italian Association of Computational Linguistics.

- **MAJOR COLLABORATIONS**

Vito Pirrelli, Marcello Ferro (ILC-CNR), Claudia Cappa (IFC-CNR), Davide Crepaldi (SISSA), Nicola Vanello, Alberto Greco (University of Pisa), Antonio Narzisi (Stella Maris), Anna Chilosi, Claudia Casalini (IRCCS), Chiara Pecini (University of Florence), Hélène Giraudo, Basilio Calderone, Fabio Montermini, Nabil Hathout (CNRS/University of Toulouse), Mohammed El Mohajir (University of Fez), Wolfgang U. Dressler (Austrian Academy of Science), Harald Baayen (Universität Tübingen), Petar Milin (University of Birmingham), James Blevins (George Mason University), Christina Gagné (University of Edmonton), Emmanuel Keuleers (University of Tilburg), Farrell Ackerman (University of California San Diego).

My research focuses primarily on psycho-computational models of morphology acquisition and processing, both in mono- and bi-lingual contexts. In a processing perspective, I investigated inflectional complexity of several languages (e.g. Italian, German, English, Spanish, French, Arabic, Russian) with recurrent self-organising neural networks, i.e., bio-computational models of the mental lexicon. The evaluation of learning and processing dynamics, in particular of verb inflection data, focuses on the effects of morphological structure on both word production and word recognition. Issues of word learning and word generalisation are inherently coupled with perception of morphological structure and the degree of morphological complexity, with inflected forms consisting of co-occurring sublexical parts. Thus, perception of similarity and competition effects play a role for the comprehension of emerging dynamics governing the morphological competence of speakers.

In the last years, in the frame of the *ReadLet* project, I enriched my research interests by focussing on the analysis of developmental trends in reading strategies, by contrasting typically and atypically developing readers. Interestingly, results emphasize the dynamic integration of sublexical and lexical reading, with the interaction of grade level, frequency, word length and word-neighbourhood size.

Several talks and presentation have been given on these topics in the last years.

Marzi Claudia, Taxitari L., Ferro M., Nadalini A., Pirrelli V. (2021) “Valutare la lettura "in tempo reale": un esempio di integrazione tra linguistica computazionale e linguistica applicata”, FARE LINGUISTICA APPLICATA CON LE DIGITAL HUMANITIES, XXI Congresso Internazionale di AItLA, Bergamo (I), 11-12/02/2021, vol. 2021, 5. [Online presentation]

Taxitari L., Ferro M., Marzi Claudia, Nadalini A., Pirrelli V. (2021) “Using mobile technology for reading assessment”, ISBN 9781728166469, 6th IEEE Congress on Information Science & Technology (IEEE CIST'20), online, 05/06/2021, 1-6.

Marzi Claudia, Rodella A., Nadalini A., Taxitari L., Pirrelli V. Does finger-tracking point to child reading strategies? CLiC-it 2020, 7th International Conference on Computational Linguistics, Bologna (I), 1-3/03/2021. [Online presentation]

Marzi Claudia, Taxitari L., Ferro M., Nadalini A., Pirrelli V. Valutare la lettura “in tempo reale”: un esempio di integrazione tra linguistica computazionale e linguistica applicata (Evaluating “online” reading: an example of integration between computational and applied linguistics) 21st International Conference of the Associazione Italiana di Linguistica Applicata (AItLA, Italian Association for Applied Linguistics), Bergamo (I), 11-12/02/2021. [Online presentation]

Marzi Claudia, Ferro M., Nahli O., Belik P., Bompolas S., Pirrelli V. Evaluating Inflectional Complexity Crosslinguistically: a Processing Perspective, LREC 2018 - Eleventh International Conference on Language Resources and Evaluation, Miyazaki (Japan), 7-12/05/2018.

Ferro M., Cappa C., Giulivi S., Marzi Claudia, Nahli O., Cardillo F.A., Pirrelli V. (2018) ReadLet: Reading for Understanding. *IEEE-CIST '18 LED-ICT*, October 2018.

Marzi Claudia, Ferro M., Pirrelli V. Lexical emergentism and the "frequency-by-regularity" interaction, Final Conference on Word Knowledge and Word Usage: Representations and Processes in the Mental Lexicon, Pisa (I), 30/3-1/4/2015.

Marzi Claudia, Ferro M., Pirrelli V. Lexical parsability and morphological structure, 9th MMM – Ninth Mediterranean Morphology Meeting on Morphology and Semantics. Dubrovnik (HR), 15-18/09/2013.

Publications

List of the most relevant publications among about 65.

✓ *Papers in International Journals*

- [1] Marzi Claudia, Greco A., Scilingo E.P., Vanello N. (2021) Towards a model of arousal change after affective word pronunciation based on electrodermal activity and speech analysis, *Biomedical signal processing and control* (Print), ISSN 1746-8094, published by Elsevier, Oxford (Regno Unito), 67(102517), 1-8.
- [2] Marzi Claudia (2020) “Modeling Word Learning and Processing with Recurrent Neural Networks”, *Information*, 11(6), 1-14. ISSN 2078-2489.
- [3] Marzi Claudia (2020) “Modelling the interaction of regularity and morphological structure: the case of Russian verb inflection”, *Lingue e Linguaggio*, ISSN 1720-9331, XIX(1), 131-156.
- [4] Marzi Claudia, Ferro M., Pirrelli V. (2019). A processing-oriented investigation of inflectional complexity. *Frontiers in Communication*, vol. 4(48), 1-23, ISSN 2297-900X. DOI 10.3389/fcomm.2019.00048.
- [5] Ferro M., Marzi Claudia, Pirrelli V. (2018) Discriminative word learning is sensitive to inflectional entropy. *Lingue e Linguaggio*, XVII(2), 307-327. ISSN 1720-9331.
- [6] Marzi Claudia, Ferro M., Nahli O. (2017) Arabic word processing and morphology induction through adaptive memory self-organisation strategies. *Journal of King Saud University. Computer and information sciences*, 29(2), 179-188. Elsevier. ISSN 1319-1578, e-ISSN 2213-1248, DOI 10.1016/j.jksuci.2016.11.006.
- [7] Marzi Claudia, Ferro M., Cardillo F.A., Pirrelli V. (2016) Effects of frequency and regularity in an integrative model of word storage and processing. *Italian Journal of Linguistics*, 28(1), 79-114. ISSN: 1120-2726.
- [8] Marzi Claudia, Pirrelli V. (2015) A Neuro-Computational Approach to Understanding the Mental Lexicon. *Journal of Cognitive Science*, 16(4), 493-534. ISSN: 1976-6939 Electronic, 1598-2327 Print.
- [9] Marzi Claudia, Ferro M., Pirrelli V. (2014) Morphological structure through lexical parsability. *Lingue e Linguaggio*, 13(2), 263-290. ISSN: 1720-9331, DOI: 10.1418/78410.
- [10] Marzi Claudia, Ferro M., Keuleers E. (2014) Perception of typicality in the lexicon: Wordlikeness, lexical density and morphonotactic constraints, *Suvremena lingvistika*, 40(78), 171-191, ISSN 0586-0296.
- [11] Marzi Claudia, Ferro M. (2013) “Adaptive strategies in lexical acquisition”, *Lingue e Linguaggio*, XII(2), 307-328, ISSN 1720-9331.

✓ *Book chapters*

- [12] Marzi Claudia, Pirrelli V. (2021 in press) Psycholinguistic research in inflectional morphology in the Romance languages. In: Lorporcaro M., Gardani F. (eds.) *Oxford Encyclopedia of Romance Linguistics*. Oxford University Press.
- [13] Marzi Claudia, Blevins J.P., Booij G., Pirrelli V. (2020) Inflection at the morphology-syntax interface. In Pirrelli V., Plag I., Dressler W.U. (eds.) *Word Knowledge and Word Usage. A cross-interdisciplinary guide to the mental lexicon*. Trends in linguistics. Studies and monographs, vol. 337, pp. 228-294. Mouton de Gruyter, ISSN 1861-4302, ISBN 9783110440577
- [14] Pirrelli V., Marzi Claudia, Ferro M., Cardillo F.A., Baayen H.R., Milin P. (2020) Psycho-computational modelling of the mental lexicon. In Pirrelli V., Plag I., Dressler W.U. (eds.) *Word Knowledge and Word Usage. A cross-interdisciplinary guide to the mental lexicon*. Trends in linguistics. Studies and monographs, vol. 337, pp. 23-82. Mouton de Gruyter, ISBN 9783110440577
- [15] Pirrelli V., Ferro M., Marzi Claudia (2015) Computational complexity of abstractive morphology. In M. Baerman, D. Brown, G. Corbett (eds.) *Understanding and measuring morphological complexity*, 141-166. Oxford University Press. ISBN 978-0-19-872376-9.