

Francesca Conca



Research topics: semantic memory, language, neurodegenerative diseases, neuroimaging, neuropsychology

Education and work experiences

December 2020 - present

Post doc research fellow at IRCCS Fondazione Istituto Neurologico Casimiro Mondino, Pavia (IT)
P.I.: Prof. Stefano Cappa

October 2017-November 2020: PhD in Cognitive Neuroscience and Philosophy of Mind

Institute of Advanced Studies (IUSS), Centre for Neurocognition and Theoretical Syntax (NeTS), Pavia (IT)
Thesis: Investigating the multidimensionality of abstract concepts through a multidisciplinary approach
Final mark: Excellent cum Laude (09/06/21)
Supervisors: Prof. Stefano Cappa, Prof. Eleonora Catricalà

March-May 2019: PhD visiting student

Glasgow University, Centre for Cognitive Neuroimaging (CCNi), Glasgow (UK)
Training in the use of EEG and non-invasive brain stimulation (TMS) in a project on visual perception
Supervisors: Prof. Gregor Thut, Dr. Domenica Veniero

13/09/2018: Italian National Order of Psychologists (Section A), n. 20953

June-July 2018: National License Exam for Psychology License at University of Pavia, Italy

October 2016 - October 2017: Post-lauream internship

Institute for Advanced Studies (IUSS), Pavia (IT)
Post lauream research internship for the qualification to practice psychology according to the national regulations
Supervisors: Prof. Eleonora Catricalà, Prof. Stefano Cappa

2014-2016: Master of Science Degree in Psychology, Cognitive Neuroscience curriculum (LM-51)

University Vita-Salute San Raffaele, Milano (IT)
Thesis: Unaware processing in the neural system for action representation: evidence from a fMRI study
Final mark: 110/110 cum Laude et Menzione ad Honorem (30/09/2016)
Supervisors: Prof. Daniela Perani, Prof. Marco Tettamanti

2011-2014: Bachelor Degree in Psychological Sciences and Techniques (L-24)

University Vita-Salute San Raffaele, Milano (IT)
Thesis: Deficit in the inhibition of violent behaviour in psychopathy: cognitive precursors and neurobiological bases
Final mark: 110/110 cum Laude (24/09/2014)
Supervisor: Prof. Nicola Canessa

Curriculum Vitae Europass

2006-2011: High school

Scientific high school, with specialization in Science, "Leonardo Da Vinci", Crema (IT)

Final mark: 100/100 cum laude (08/07/2011)

Publications

1. Repetto C.*, Rodella C., **Conca F.**, Santi G.C., Catricalà E., "The Italian Sensorimotor Norms: perception and action strength measures for 959 words", submitted.
2. **Conca F.**, Esposito V., Giusto G., Cappa S.F., Catricalà E., "A comprehensive characterization of the logopenic variant of Primary Progressive Aphasia: a systematic review and meta-analysis", submitted.
3. Catricalà E., Santi G., Polito C., **Conca F.**, Esposito V., Caminiti S., Boccalini C., Berti V., Bessi V., Marcone A., Iannaccone S., Sorbi S., Perani D.*, Cappa S.F.*, "Qualitative characterization of linguistic performance profiles in Primary Progressive Aphasia: a multivariate study with FDG-PET", in revision.
4. **Conca F.***, Esposito V.*, Rundo F., Quaranta D. et al., ... Cappa S., "Italian adaptation of the Uniform Data Set Neuropsychological Test Battery (I-UDSNB 1.0): development and normative data", Alzheimer's Research & Therapy, 2022, accepted.
5. Ghio M., **Conca F.**, Bellebaum C., Perani D., Tettamanti M., "Effective connectivity within the neural system for object-directed action representation during aware and unaware tool processing", Cortex, 2022, doi:10.1016/j.cortex.2022.04.005.
6. **Conca F.**, Catricalà E., Canini M., Petrini A., Vigliocco G., Cappa S. F., Della Rosa P. A., "In search of different categories of abstract concepts: a fMRI adaptation study", Scientific Reports, 2021, 11: 22587, doi: 10.1038/s41598-021-02013-8.
7. Catricalà E., **Conca F.**, Borsa V.M., Cotelli M., Manenti R., Gobbi E., Binetti G., Cotta Ramusino M., Perini G., Costa A., Rusconi M.L., Cappa S.F., "Different types of abstract concepts: evidence from two neurodegenerative patients", Neurocase, 2021, 27, 270-280, doi: 10.1080/13554794.2021.1931345.
8. **Conca F.***, Borsa V.M.*, Cappa S. F., Catricalà E., "The multidimensionality of abstract concepts: a systematic review", Neuroscience and Biobehavioural Reviews, 2021, 127: 474-491, doi: 10.1016/j.neubiorev.2021.05.004.
9. Catricalà E., Polito C., Presotto L., Esposito V., Sala A., **Conca F.**, Gasparri C., Berti V., Pupi A., Sorbi S., Iannaccone S., Magnani G., Cappa S.F., Perani D., "Neural correlates of naming errors across different neurodegenerative diseases: a FDG-PET study", Neurology, 2020, 95:e2816-e2830, doi: 10.1212/WNL.00000000000010967.
10. Artoni F., d'Orio P., Catricalà E., **Conca F.**, Bottoni F., Pelliccia V., Sartori I., Lo Russo G., Cappa S.F., Micera S., Moro A., "High gamma response tracks different syntactic structures in homophonous phrases", Scientific Reports, 2020, 10:7537, doi: 10.1038/s41598-020-64375-9.
11. Catricalà E., **Conca F.**, Fertonani A., Miniussi C., Cappa S.F., "State-Dependent TMS reveals the differential contribution of ATL and IPS in the representation of abstract concepts related to social and quantity knowledge", Cortex, 2020, 123: 30-41, doi: 10.1016/j.cortex.2019.09.018.
12. **Conca F.**, Tettamanti M., "Conceptual semantics as grounded in personal experience" Invited contribution to Phenomenology and Mind, 2018, 14: 98-116, doi: 10.13128/Phe_Mi-23628.
13. Tettamanti M., **Conca F.**, Falini A., and Perani D. "Unaware processing of tools in the neural system for object-directed action representation", The Journal of Neuroscience, 2017, 37(44):10712–10724, doi:10.1523/JNEUROSCI.1061-17.2017.

*equal contribution

Conference papers

- Rodella C., Repetto C., **Conca F.**, Santi G., Catricalà E., "The Italian Sensorimotor Norms: perception and action strength measures for 959 Italian words". XXX AIP Congress – all sections, 27-30 Sept 2022, Padua, Italy.
- Repetto C., Rodella C., **Conca F.**, Santi G., Catricalà E., "The Italian Sensorimotor Norms: perception and action strength measures for 959 Italian words", ESLP - Embodied and Situated Language Processing Conference, 28 - 29 Aug 2022, Lille, France.
- **Conca F.**, Santi G.C., Polito C., Esposito V., Caminiti S., Berti V., Bessi V., Marcone A., Iannaccone S., Sorbi S., Catricalà E., Perani D., Cappa S.F., "Qualitative characterization of linguistic performance profiles in Primary Progressive Aphasia: An FDG-PET study", 9th Winter Seminar on Dementia and Neurodegenerative Disorders (Sindem4Juniors), 27-29 April 2022, Brixen, Italy (**with flash poster oral presentation**).
- **Conca F.**, Esposito V., Giusto G., Cappa S.F., Catricalà E., "A comprehensive characterization of the logopenic variant of Primary Progressive Aphasia: a systematic review and meta-analysis", XVI Congresso Nazionale Sindem, 25-27 Nov 2021, Firenze, Italy.
- Santi G.C., **Conca F.**, Esposito V., Giusto G., Bessi V., Sorbi S., Catricalà E., Cappa S.F., Polito C., "A comparison between two Italian picture naming tasks: a preliminary study with neurodegenerative diseases", Congresso della Società Italiana di Neuropsicologia (SINP), 19-20 Nov 2021, Modena, Italy.
- Borsa V.M., **Conca F.**, Catricalà E., Cappa S.F., Rusconi M.L., "Il ruolo della valenza emotiva di parole astratte e concrete nel contrastare gli effetti dell'invecchiamento sulle abilità di controllo", XIV Convegno Nazionale di Psicologia dell'Invecchiamento, 29 May 2021.
- **Conca F.**, Catricalà E., Canini M., Petrini A., Vigliocco G., Cappa S. F., Della Rosa P. A., "In search of different categories of abstract concepts: a fMRI adaptation study", Cognitive Neuroscience Society (CNS) virtual meeting, 13-16 Mar 2021.
- **Conca F.**, Catricalà E., Canini M., Petrini A., Cappa S. F., Della Rosa P. A., "Brain adaptation effects to abstract and concrete knowledge: evidence from a fMRI study", 12th FENS Virtual Forum of Neuroscience, 11-15 July 2020.
- Catricalà E., **Conca F.**, Borsa V.M., Cotelli M., Manenti R., Gobbi E., Binetti G., Cotta Ramusino M., Perini G., Costa A., Rusconi M.L., Cappa S.F., "Different classes of abstract concepts: evidence from neurodegenerative patients", 1st virtual annual meeting, Rete IRCCS delle neuroscienze e della neuroriabilitazione, 8-9 July 2020.
- Ghio M., **Conca F.**, Bellebaum C., Perani D., Tettamanti M., "Effective connectivity within the neural system for object-directed action representation during aware and unaware tool processing", XXV Annual Meeting of the Organization for Human Brain Mapping (OHBM), 9-13 June 2019, Rome, Italy.
- Catricalà E., **Conca F.**, Fertonani A., Miniussi C., Cappa S.F., "The role of ATL and IPS in representing social and quantity concepts: a State-Dependent TMS study", XXV Annual Meeting of the Organization for Human Brain Mapping (OHBM), 9-13 June 2019, Rome, Italy.
- **Conca F.**, Catricalà E., Canini M., Petrini A., Cappa S. F., Della Rosa P. A., "Abstract and concrete categories: evidence from a state-dependent fMRI study", 20 May 2019, IUSS PhD Day 2019 Second Edition, Pavia, Italy.
- Consonni M., Catricalà E., Boschi V., Dalla Bella E., Borsa V.M., **Conca F.**, Verni R., Gasparri C., Canessa N., Lauria G., Cappa S.F., "The Boat test: a new task assessing moral and utilitarian judgment", 29th International symposium on ASL/MND, 7-8 Dec 2018, Glasgow, UK.
- **Conca F.**, Fertonani A., Catricalà E., Finazzi S., Rodella C., Miniussi C., Cappa S.F., "Social and magnitude abstract concepts: the differential contribution of ATL and IPS revealed by State-Dependent TMS", Transcranial Brain Stimulation in Cognitive Neuroscience Workshop, 6-7 Dec 2018, Rovereto, Italy.

Curriculum Vitae Europass

- Cappa S.F., Catricalà E., **Conca F.**, Fertonani A., Finazzi S., Rodella C., Borsa V.M., Miniussi C., "State-Dependent TMS reveals the differential contribution of ATL and IPS in the representation of social and magnitude abstract concepts", Society for Neuroscience 48th Annual Meeting, 3-7 Nov 2018, San Diego, CA (**poster presenter**).
- **Conca F.**, "State dependent TMS reveals the differential contribution of ATL and IPS in the representation of social and magnitude abstract concepts", 21 May 2018, IUSS PhD Day 2018 First Edition, Pavia, Italy.
- Catricalà E., Borsa V., **Conca F.**, Verni R., Cotelli M., Manenti R., Gobbi E., Della Rosa P., Binetti P., Cappa S., "Semantic inhibition impairment in amnesic Mild Cognitive Impairment" XIII Congresso Nazionale Sindem, 19-21 April 2018, Firenze, Italy.
- Consonni M., Catricalà E., Canessa N., Boschi V., Dalla Bella E., Borsa V.M., **Conca F.**, Verni R., Lauria G., Cappa S.F., "The Boat test: a new task to investigate moral and utilitarian judgment. The case of amyotrophic lateral sclerosis", XIII Congresso Nazionale Sindem, 19-21 April 2018, Firenze, Italy.
- Borsa V.M., **Conca F.**, Verni R., Cotelli M., Manenti R., Gobbi E., Binetti G., Polito C., Sorbi S., Chesi C., Catricalà E., Cappa S.F., "Semantic inhibition in processing living things is impaired in amnesic Mild Cognitive Impairment", XXXVI European Workshop on Cognitive Neuropsychology (E.W.C.N.), 21-26 Jan 2018, Brixen, Italy.
- **Conca F.**, Tettamanti M., Falini A., and Perani D. "Elaborazione subliminale nel sistema neurale di rappresentazione dell'azione: uno studio di attivazione e decodifica fMRI", VI Congresso della Società Italiana di Neuropsicologia (SINP), 24-25 Nov 2017, Palermo, Italy (**with oral presentation**).
- **Conca F.**, Tettamanti M., and Perani D. "Unaware processing in the neural system for action representation: evidence from a fMRI study", XXXV European Workshop on Cognitive Neuropsychology (E.W.C.N.), 22-27 January 2017, Brixen, Italy (**with oral presentation**).

Moderator

- Education Workshop "Lost in...social: The impact of social media on scientific accomplishment", 9th Winter Seminar on Dementia and Neurodegenerative Disorders (Sindem4Juniors), 27-29 April 2022, Brixen, Italy (Young Moderator).
- "Un approccio multidisciplinare per lo studio del linguaggio nelle patologie neurodegenerative: neuropsicologia, neuroimmagini e modelli computazionali", Settimana del Cervello, video-conference 16 March 2021 (co-moderator with Cappa S.F.).

Didactic Activities

Academic year 2021-2022

- Seminars within the course of Neurobiology of Memory (10 hours, University of Pavia, MSc in Psychology, Neuroscience and Human Sciences)
- Seminar Applicazioni di Neuropsicologia (4 hours, IUSS, corsi ordinari)
- Teaching Assistant for the courses Fundamentals of Neuroscience, Principles of Applied Neuroanatomy (Bachelor and Master Degree in Psychology, University Vita-Salute San Raffaele), Neurobiology of Memory (Master Degree in Psychology, Neuroscience and Human Sciences, University of Pavia)

Grants and Prizes

- FENS-IBRO/PERC Grant, FENS Forum of Neuroscience 2020

Curriculum Vitae Europass

- Mobility scholarship for Erasmus Plus Traineeship Programme 2019

Informatics skills

Ability in the use of: Microsoft Office (Word, Excel, Power Point), SPSS (Statistical Package for Social Science), Matlab (Matrix Laboratory), SPM (Statistical Parametric Mapping) and extensions, BrainMap (Sleuth, Mango, GingerAle), BrainVision, Presentation Software, SofTaxic, Wuggy, online linguistic databases (PhonItalia, WordNet, CoLFIS), GIMP (GNU Image Manipulation Program), OriginLab.

Peer review activities

- Reviewer for: Cerebral Cortex; Cortex; Neurological Sciences; Frontiers in Aging Neuroscience; Quantitative Psychology and Measurement (Frontiers in Applied Mathematics and Statistics and Frontiers in Psychology); Neuropsychology (Frontiers in Psychology)
- Sub-reviewer for AISC (Associazione Italiana Scienze Cognitive) 2018 conference

Other activities

- 9-13 June 2019: Volunteer at the XXV Annual Meeting of the Organization for Human Brain Mapping (OHBM), Rome, Italy.
- 11 July 2018 and 2-7 July 2020: orientation activities for high school students (SOU, Scuola di Orientamento Universitario 2018-2020), IUSS, Pavia, Italy.

Driving License: B

Language: English, Level C1 (OLS, 19/05/2019)

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