

# Curriculum vitae



**Nicole  
Dalia  
Cilia**

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Date of birth: 28 August 1988  
Gender: Female  
Nationality: Italian

## Education

- 2017 Ph.D. in Philosophy: Logic and Epistemology - Sapienza University of Rome, Rome (Italy) – with honours (cum laude). Thesis: An experimental model of analogical reasoning. Epistemological problems and perspectives.
- 2014 Summer School. Modeling for cognitive science: Netlogo, Java, Matlab, R. ISTC, CNR, Rome.
- 2013 M.A in Philosophy - Sapienza University of Rome, Rome (Italy)  
With honours - (110/110 cum laude).
- 2011 B.A. in Philosophy - Sapienza University of Rome, Rome (Italy)  
With honours - (110/110 cum laude).
- 2007 High School (Science Course Diploma - GCE at A level) – Liceo Scientifico Antonino Sciascia, Canicattì (Italy)

## Teaching Experience and collaborations

- Sept 2017- until now **Research Grant**  
HAND (Handwriting analysis against Neuromuscular Disease) project. DIEI, University of Cassino and Southern Lazio.
- 2017 **Master Teaching**  
Management della PA, Module of “Processi di digitalizzazione nella PA”, 25h, University of Cassino and Southern Lazio.
- 2016 **Academic Teaching**  
Course entitled “Rappresentare la conoscenza”, Course of study “Philosophy and knowledge”, Bachelor Degree, Sapienza University of Rome, 36h, 6 cfu.
- 2015 **Academic Teaching**  
Course entitled “Rappresentare la conoscenza”, Course of study “Philosophy and knowledge”, Bachelor Degree, Sapienza University of Rome, 36h, 6 cfu.
- 2014 **Academic Teaching**  
Course entitled “Rappresentare la conoscenza”, Course of study “Philosophy and knowledge”, Bachelor Degree, Sapienza University of Rome, 36h, 6 cfu.
- 2012 - 2014 **Research Collaboration**  
Research on analogy and predictive structures. Experimental design with Moustracker, statistical analysis R.

I.S.T.C. C.N.R, Rome. Goal-Oriented Agents Lab, Giovanni Pezzulo

- 03/2013 – 05/2013 **Academic Teaching**  
Workshop courses for ‘Data & knowledge modellers’ on Open data, Linked data, Data journalism and Semantic SEO  
Sapienza University of Rome, Rome (Italy)
- 03/2012 – 06/2012 **Teaching**  
Linked Open Data: descriptive logic, knowledge modeling and OWL  
Department of Health AIFA (Italy)

## Publications

- Cilia N.D., De Stefano C., Fontanella F., Molinara M., Scotto di Freca A. (2020), *What is the minimum training data size to reliably identify writers in medieval manuscripts?*, Pattern Recognition Letters, 129, pp. 198-204.
- Cilia N.D., De Stefano C., Fontanella F., Marrocco M., Molinara M., Scotto di Freca A. (2020), *An end-to-end deep learning system for medieval writer identification*, Pattern Recognition Letters, 129, pp. 137-143.
- Cilia N.D., De Stefano C., Fontanella F., Molinara M., Scotto di Freca A. (2019), *A Page-Based Reject Option for Writer Identification in Medieval Books*, Lecture Notes in Computer Science, 11808 LNCS, pp. 187-197.
- Cilia N.D., De Stefano C., Fontanella F., Scotto di Freca A. (2019), *Improving Handwritten Character Recognition by Using a Ranking-Based Feature Selection Approach*, Lecture Notes in Computer Science, 11401 LNCS, pp. 902-910.
- Cilia N.D., De Stefano C., Fontanella F., Scotto di Freca A. (2019), *An Experimental Comparison of Feature-Selection and Classification Methods for Microarray Datasets*, Information, 10(3): 109.
- Cilia N.D., De Stefano C., Fontanella F., Molinara M., Scotto di Freca A. (2019), *Handwriting Analysis to Support Alzheimer’s Disease Diagnosis: A Preliminary Study*, Notes in Computer Science, 11679 LNCS, pp. 143-151.
- Cilia N.D., De Stefano C., Fontanella F., Molinara M., Scotto di Freca A. (2019), *Minimizing Training Data for Reliable Writer Identification in Medieval Manuscripts*, Notes in Computer Science, 11808 LNCS, pp. 198-208.
- Cilia N.D., De Stefano C., Fontanella F., Scotto di Freca A. (2019), *Using handwriting features to characterize cognitive impairment*, Lecture Notes in Computer Science, 11752 LNCS, pp. 683-693.
- Cilia N.D., De Stefano C., Fontanella F., Scotto di Freca A. (2019), *Variable-Length Representation for EC-Based Feature Selection in High-Dimensional Data*, Lecture Notes in Computer Science, 11454 LNCS, pp. 325-340.
- Cilia N.D., De Stefano C., Fontanella F., Molinara M., Scotto di Freca A. (2019), *A Two-Step System Based on Deep Transfer Learning for Writer Identification in Medieval Books*, Lecture Notes in Computer Science, 11679 LNCS, pp. 305-316.
- Cilia N.D. (2019). *L’evoluzione di un’ipotesi nell’Intelligenza Artificiale*. SYTHEZESIS, 191-214.
- Cilia N.D., De Stefano C., Fontanella F., Scotto di Freca A. (2019), *La spiegazione nel machine learning: un caso neuroscientifico*. ed. Gagliardi F. Cruciani M. Filosofia, Medicina e cognizione. Aracne edizioni. 135-162.
- Scarpato N. Cilia N.D, Romano M. (2019). *Reachability Matrix Ontology: A Cybersecurity Ontology*, Applied Artificial Intelligence, 33(7), pp. 643-655.
- Cilia N.D., De Stefano C., Fontanella F., Scotto di Freca A. (2019). *A ranking-based feature selection approach for handwritten character recognition*. Pattern Recognition Letters, 121, pp. 77-86.

- Cilia N.D. (2018), *Il caffè nero di Poincaré. Il ruolo dell'intuizione nella scoperta scientifica* (2018). Rivista internazionale di Psicoanalisi. DOI: 10.19226/068.
- Cilia N.D., De Stefano C., Fontanella F., Scotto di Freca A. (2018), *Improving Evolutionary Algorithm Performance for Feature Selection in High-Dimensional Data*, Lecture Notes in Computer Science, 10784 LNCS, pp. 439-454.
- Cilia N.D., De Stefano C., Fontanella F., Scotto di Freca A. (2018), *An Experimental Protocol to Support Cognitive Impairment Diagnosis by using Handwriting Analysis*, Procedia Computer Science, 141:466-471.
- Cilia N.D., Tonetti L. (eds) (2017). *Wired bodies. New perspectives on the machine-organism analogy*, CNR Edizioni, Roma.
- Cilia N.D., Tonetti L. (eds) (2017). Introduction, In: N.D. Cilia, L. Tonetti, *Wired bodies. New perspectives on the machine-organism analogy*, CNR Edizioni, Roma.
- Cilia N.D. (2017). *Understand me or duplicate me? Levels of explanation of artificial methodology*, In: N.D. Cilia, L. Tonetti, *Wired bodies. New perspectives on the machine-organism analogy*, CNR Edizioni, Roma.
- Tamburrini G., Cilia N.D. (eds) (2016). *Machines, Minds, and adaptive Behavior*, Paradigmi: Rivista di Critica Filosofica, 3.
- Guastella D., Cilia N.D. (2016). *Metacognizione, attenzione e intelligenza emotiva: uno studio sperimentale*, Atti del convegno Aisc 2015: Language, Cognition and Society.
- Cilia N.D., Tamburrini G. (2016). *Foreword*, in: Tamburrini G., Cilia N.D. (eds). *Machines, Minds, and adaptive Behavior*. Paradigmi: Rivista di Critica Filosofica, 3, pp. 8-11.
- Santucci V.G., Cilia N.D., Pezzulo G. (2016). *The status of the simulative method in cognitive science - the current debate and future prospects*, In: Tamburrini G., Cilia N.D. (eds). *Machines, Minds, and adaptive Behavior*, Paradigmi: Rivista di Critica Filosofica, 3, pp. 51-74.
- Cilia N.D. (2016). *Roberto Cordeschi - A biographical note and List of publications*, In: Tamburrini G., Cilia N.D. (eds). *Machines, Minds, and adaptive Behavior*. Paradigmi: Rivista di Critica Filosofica, 3, pp. 189-198.
- Cilia N.D., Guastella D. (2016). *Dislessia: Nuove tecnologie per nuovi contesti educativi*. In: Cruciani et al. (eds), Atti del convegno AISC.
- Plebe A. e Cilia N.D. (2016), *The topographic brain in diversity and identity selection functions*, Neuropsychological Trends, 20, 127.
- Plebe A. e Cilia N.D. (2016), *La difficoltà del simulare la semplicità*, in Mind the Gap: Brain, Cognition and Society - 13th Annual Conference of the Italian Association for Cognitive Sciences,” <http://www.collane.unito.it/oa/items/show/10>.
- Cilia N.D., Guastella D., Lombardi Vallauri E. (2015). *Oculi speculum mentis: l'interazione tra giudizio di analogia e movimenti oculari*, in Bruni D., Carapezza M., Cruciani M., Lo Bosco G., Plebe A., Perconti P., Tabacchi M.E. (a cura di.), *Il futuro prossimo della scienza cognitiva*, Neascience, 2, 7, pp. 32-34.
- Cilia N.D., Scarpato N., Romano M., (2015). *A Semantic Approach to Reachability Matrix Computation*, CEUR Workshop Proceedings, 1523, pp. 91-94
- Cilia N.D., Guastella D. (2015). *Uno sguardo oltre la scienza cognitiva classica: approcci teorici e strumenti per l'embodied cognition* In: Chiera A. Ganfi V. (eds) Immagine e pensiero. Bilanci nelle scienze cognitive attuali, EDAS, Corisco edizioni, 50-79.
- Cilia N. D., De Simone D. A. (2014), *Una ricerca sulla dinamica del ragionamento analogico attraverso il tempo*, in Airenti G., Cruciani M., Di Nuovo S., Perconti P., Plebe A. (a cura di), *Nuove frontiere delle scienze cognitive: interdisciplinarietà e ricadute applicative*, Euno Edizioni, Enna.
- Gagliasso E., Cilia N.D. (2014), *In memoria di Roberto Cordeschi*, in Paradigmi: Rivista di Critica Filosofica, 3, pp.8-12.

- Guastella D., Cilia N.D. (2014), *Il corpo come strumento per le scienze cognitive: il mapping analogico e i movimenti oculari*, in Cruciani M., Rega A., *Corpi, Strumenti e Cognizione*, Neascienze, 1, 5, pp. 222-227.
- Guastella D., Cilia N.D. (2014), *Strumenti per l'embodied cognition*, in Atti del Convegno Aisc-Codisco 2014.

## Conferences and International Workshops

- IGS 2019: International Graphonomics Society, Cancun, Mexico, June 8-13, 2019.
- CAIP 2019: International Conference on Computer Analysis of Images and Patterns, University of Salerno, September 2-6, 2019.
- ICIAP 2019: International Conference on image analysis and processing, University of Trento, September 9-13, 2019.
- I-Core: International Conference on Complexity, Inter-connectivity and Resilience, University of Bologna, December 4-6, 2019.
- ICTH 2018: Information and Communication Technologies in Healthcare, Leuven, Belgium. November 5-8, 2018.
- SIPF 2016: Associazione Italiana di Psicofisiologia e Neuroscienze, University of Milan, October 27-29, 2016.
- AISC-CODISCO 2015: Italian Association of Cognitive Science, University Roma Tre, Rome, December 2-5, 2015.
- AISC-CODISCO 2015: Italian Association of Cognitive Science, University Roma Tre, Rome, December 2-5, 2015.
- AISC 2015: Italian Association of Cognitive Science, University of Palermo, May 21-22, 2015.
- STIDS 2015: International Conference on Semantic Technology for Intelligence, Defense, and Security, George Mason University, November 18-20, 2015.
- AISC 2014: Italian Association of Cognitive Science, University Kore di Enna, Enna, May 22-24, 2014.

## Invited Talk

- I-Core, International Conference on Complexity, Inter-connectivity and Resilience: “*Complexity and Explainability in Artificial Intelligence*”, University of Bologna, December 4-6, 2019.
- AISC 2016: “*La difficoltà del simulare la semplicità*”, University of Turin, November 24-26, 2016.
- AISC 2015: “*Roberto Cordeschi e la filosofia delle scienze cognitive*”, University of Palermo, May 21-22, 2015.

## Conferences, Workshops and Seminar Organization

- 13/09/2019. “Artificial Intelligence for Health Applications” in International Conference on Pattern Recognition (ICPR, Milan).
- 19-02-2016. “Macchine e modelli. L'evoluzione del pensiero cibernetico”, Department of Philosophy, Sapienza University of Rome. Scientific Committee: Cilia Nicole Dalia, Fabris Flavia, Gagliasso Elena.

- 2015-2016 Workshop on “Macchina e organismo”, Department of Philosophy, Sapienza University of Rome. Scientific Committee: Cilia Nicole Dalia, Tonetti Luca, Gagliasso Elena:
  - 23-03 Le macchine del nostro corpo: antiche e nuove alleanze tra Macchina e Organismo
  - 13-04 Forme di vita, forme di tecnica
  - 27-04 Corpi, mondo, tecnica
  - 18-05 Macchine imperfette: da strumento euristico a ostacolo epistemologico
  - 22-06 Undestanding by builing: la complessa relazione tra naturale e artificiale

## Journal Collaborations

Frontiers in ICT and Robotics and AI (member of editorial board)

La mente e i sistemi cognitivi, Aracne (member of editorial board)

## Award

- PANOPTESSEC, European Project on Cyber Defence, 2016, package of Ontology for Reachability Matrix Computation, with Epistematica srl.
- “Starting Grant” project, 2015, Sapienza University of Rome, Department of Philosophy.
- “Starting Grant” project, 2014, Sapienza University of Rome, Department of Philosophy.

## Academic and Research Memberships

AISC – Associazione Italiana di Scienze Cognitive (Italian Association of Cognitive Science)

SILFS – Società Italiana di Logica e Filosofia della Scienza (Italian Society for Logic and Philosophy of Science);

SIPF – Società Italiana di Psicofisiologia.

CVPL - Associazione Italiana per la ricerca in Computer Vision, Pattern Recognition and Machine Learning.

I authorise the use of my personal data in compliance with the Italian Legislative Decree 196/03.

Cassino, December 9th, 2019

