



Martina BACARO

PhD student in Philosophy of Cognitive Science

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Born 22/02/1992, Foligno (PG), Italy

Area of Competence

Philosophy of Cognitive Science; Philosophy of Artificial Intelligence; Cognitive Semiotics

Area of Specialization

Human-Robot Interaction; Cognitive Robotics; Philosophy of Social Cognition; Enactivism

Current positions

PhD in Philosophy, Science, Cognition and Semiotics

University of Bologna – Alma Mater Studiorum

11/2021 – now

Research Fellow at Department of Computer Science and Engineering

University of Bologna – Alma Mater Studiorum

09/2021- now

Research project: "Trustworthy Artificial Intelligence ecosystem creation through engagement and awareness" funded by "H2020 -ICT Foundations of Trustworthy AI - Integrating Reasoning, Learning and Optimization" - "TAILOR"
Supervisor Prof. Michela Milano

Education

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| 2023 | Visiting Ph.D student. University of Linköping (Sweden), Department of Cognitive Systems (6 months)
Supervisor Prof. Tom Ziemke |
| 2023 | 4 th Summer School on Social Human-Robot Interaction, organized by IEEE Robotics and Automation Society, 18-25/09/2023, Poland. |
| 2016-2019 | M.Sc. Semiotics
Department of Philosophy and Communication, University of Bologna – Alma Mater Studiorum
Final Grade: <i>Summa cum laude</i> |
| 2011-2015 | B.Sc. Linguistics and Italian Literature
Department of Italian Literature, University of Perugia |

Grants

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| 2023 | TAILOR Collaboration Exchange Fund
Grant for Exchange Period Abroad |
| 2018 | University of Bologna
Scholarship for excellence |

Publications

Journal Articles and Chapters

- Forthcoming (2024) **Bacaro, Martina**, Why Do Robots Have Faces? A Cognitive Semiotic Perspective on Human-Likeness in Robots, in Leone, M., Dondero, M.G., Paolucci, C. *Face it! The new challenges of Cognitive Visual Semiotics*, Springer, Dordrecht.
- 2024 **Bacaro, Martina**; Bianchini, Francesco, Artificial Intelligence ad Expected Intelligence, in Bianchini, F., Fano, V., Graziani, P. (Eds.) *Current Topics in Logic and the Philosophy of Science. Papers from SILFS 2022 postgraduate conference*. College Publications, pp. 89-116.
- 2023 Paolucci, Claudio; Martinelli, Paolo; **Bacaro, Martina**, Can we really free ourselves from stereotypes? A semiotic point of view on clichés and disability studies, *Semiotica*, 2023, 253, pp. 1 - 34
- 2021 Lobaccaro, Luigi; **Bacaro, Martina**, What is in the Mirror? On Mirror Self-Recognition, Semiotics, and Material Engagement. *Reti, saperi, linguaggi, Italian Journal of Cognitive Sciences*, 1/2021, pp. 103-124, doi: 10.12832/101347

Commentaries and Reviews

- 2024 **Bacaro, Martina**; Mikołaj Dziok, Jakub Możaryn, Paul Schweidler, Joanna Rączaszek-Leonardi, Review to: Cobots, Complexities, and Campfire: Report on the 4th HRI Summer School, *Adaptive Behavior*, 2024, 0, pp. 1 - 5
- 2021 Maria Danae Koukouti; Lambros Malafouris; Shaun Gallagher; Carey Jewitt; Claudio Paolucci; Luigi Lobaccaro; **Martina Bacaro**, *Book Forum: On Maria Danae Koukouti, Lambros Malafouris, "An Anthropological Guide to the Art and Philosophy of Mirror Gazing"*, London, Bloomsbury Publishing, 2020, pp. 200, *Studi di estetica*, 2021, 21, pp. 225 - 256

Talks at Conferences, Symposia, Workshops, and Seminars

- 2024 Introduction to the Workshop "AI and Society".
4th TAILOR Conference "Trustworthy AI from lab to market", Lisbon, 05/06/2024 (Invited)
- 2024 From SHAKEY to the Future: A Roundtrip Journey in Robotics and Cognitive Sciences.
International Workshop "Machines in Thoughts. Philosophy, History, and Epistemology of Robotics and AI", Bologna, 10/05/2024 (Invited)
- 2023 Is anthropomorphic language appropriate for robots? A historical, philosophical and ethical debate.
Symposium "Cognitive Robo-Ethics 2023" at the 19th Annual Conference of the

- Italian Association for Cognitive Sciences - "Values and Cognition", 16/12/2023
(Peer reviewed)
- 2023 Bacaro, Martina; Bianchini, Francesco (University of Bologna), Artificial Intelligence as Expected Intelligence: Evidence from Social Robotics. 19th Annual Conference of the Italian Association for Cognitive Sciences. "Values and Cognition", 15/12/2023 (Peer reviewed)
- 2023 Enactivist HRI. Autonomy, Intentionality and Participatory Sense-Making. COIN Seminars, Linköping University, 30/10/2023 (Invited)
- 2023 From Intentionality Attribution to Intentionality Detection in Human-Robot Interaction. COIN Seminars, Linköping University, 24/04/2023 (Invited)
- 2023 Why Do Robots Have Faces? A Cognitive Semiotic Perspective on Human-Likeness in Robots. International Symposium "Face it! The new challenges of Cognitive Visual Semiotics", Liegi, 27/01/2023 (Invited)
- 2022 Intentional stance, Intentional attitude. An inquiry on types of Intentionality in Human-Robot Interaction. "18th Annual Conference of the Italian Association of Cognitive Sciences - The explaining mind", Rovereto 15-17/12/2022 (Peer reviewed)
- 2022 Nudging through touch. Philosophy and cognitive sciences of touch in Human-Robot Interaction. SoRaMI 2022 Workshop, *International Conference of Social Robotics 2022* - Firenze, IT, 13/12/2022 (Peer reviewed)
- 2022 The synthetic method. Epistemology and Applications to Robotics. "PhiloCogSci Seminar Series", University of Bologna – Alma Mater Studiorum, 13/10/2022 (Invited)
- 2022 Interaction Theory and Emotions: applications to Human-Robot Interaction. AISC Midterm Conference 2022. "The Affective Turn in Cognitive Science" – Parma, 22/06/2022. (Peer reviewed)
- 2019 Bacaro Martina; Bianchini Francesco. Intelligent but not so much: the intelligence of IoT. AISC Annual Conference 2019. "The Complexity of cognition: multidisciplinary approaches to human behavior" – Rome, December 11th-13th. (Peer reviewed)
- 2019 Enhancing Material Engagement Theory for Internet of Things devices: Material Engagement 2.0. International Conference "Mediating Material Engagement. Technology, Narrativity, Performance" – Messina, September 25th-27th. (Peer reviewed)

Organization of conferences and seminars

- 2024 Organizing committee member 4th TAILOR Conference “Trustworthy AI from Lab to Market”, Lisbon, 04-05/06/2024
- 2024 Internation Workshop “Machines in Thoughts. Philosophy, History, and Epistemology of Robotics and AI”, Bologna, 09-10/05/2024
Co-Organized with prof. Francesco Bianchini and Daniele Molinini
- 2023-2024 Organizing committee member SeRiC – Seminari delle Ricerche in Corso del Dipartimento di Filosofia dell’Università di Bologna – Alma Mater Studiorum
- 2023 Organizing committee member 3rd TAILOR Conference “Trustworthy AI by Integrating Learning, Optimization, and Reasoning”, Siena, 03-05/06/2023
- 2022 AISC midterm Conference 2022 - "Affective Turn in Cognitive Science" Italian Association of Cognitive Science (AISC) midterm conference 2022
22-24/06/2022 – University of Parma
- 2022 Organizing committee member Workshop SILFS "Italian Society of Logic and Philosophy of Science":*New Trends in Logic and Philosophy of Science* - University of Bologna – 19/05/2022
- 2022 Organizing committee member 2nd TAILOR Conference “Trustworthy AI by integrating Learning, Optimization, and Reasoning”, Prague, 03-05/09/2022
- 2021 Organizing committee member: AI4EU Stakeholder Forum, Final Event - Bologna, Italy, 09-10/12/2021. European Union's Horizon 2020 research and innovation programme G.A. 825619.
- 2021 Organizing committee member: 2nd edition of "Smart City Robotic Challenge", organized by European Union’s Horizon 2020 research and innovation programme SciRoc (GA No780086), Bologna, 08-10/09/2021
- 2020-2021 Organizing committee member: 1st series of Seminars for the "International Centre for Enactivism and Cognitive Semiotics"
- 2019 Organizing committee member: conference "Embodied creativity: the role of performativity” University of Bologna, Bologna, 24-26/06/2019

Current projects

Ph.D Thesis

In preparation

Ph.D Thesis in Philosophy, Science, Cognition, and Semiotics (University of Bologna – Alma Mater Studiorum)
Title: Tu, Robot. Filosofia delle scienze cognitive ed Enattivismo per la Human-Robot Interaction.

Journal Articles

- In preparation The Robot as an Icon: Anthropomorphism, Humanlikeness and the Uncanny Valley Effect, In Dondero, M.G., Pinotti, A., Dalmasso, A. C. and Conte, P. *AlgoMedia. The Image at the Time of Artificial Intelligence*, Springer, Dordrecht.
- To be submitted Enactivist HRI. Autonomy, Intentionality, and Participatory Sense-Making. Co-written with prof. Tom Ziemke (University of Linköping)

Book Translations

- In preparation Italian translation of the book “Linguistic Bodies”, authored by Di Paolo, E., Cuffari, E., De Jaegher, H. (2018). In collaboration with Luigi Lobaccaro (University of Bologna)

Teaching Experience

- 2024 Il metodo sintetico. Filosofia, Storia, Epistemologia e la sua applicazione nella Robotica Sociale.
Lesson for the Master class of “Filosofia della scienza”.
Holder of the course Prof. Francesco Bianchini (University of Bologna)
- 2023 Intentionality and its attribution.
Lesson for the Master class of “Philosophy of Cognitive Sciences”.
Holder of the course Prof. Francesco Bianchini (University of Bologna)
- 2023 Il metodo sintetico. Filosofia, Storia, Epistemologia e la sua applicazione nella Robotica Sociale.
Lesson for the Bachelor class of “Theories and Systems of Artificial Intelligence”,
Holder of the course prof. Francesco Bianchini (University of Bologna)
- 2022-2024 Stereotypes of People with Disabilities on social media. A case study from the “MeMe project”
Holder of the course prof. Claudio Paolucci (University of Bologna)

Employment

- 2021 – now Dissemination and Communication Responsible for the TAILOR project (H2020-ICT-2019-3, U-funded ICT-48 Network (GA No 952215)
Partner in WP12 - Dissemination and Outreach
- 2019 – 2022 Collaboration with “Archilabò” – Cooperative for Education and Digital Competences
- 2019 – 2021 Collaboration with Art-ER (Regione Emilia-Romagna)
Project: "Development of Digital Competences for next generations"

Other Activities

- 2023-2024 Participation to the Reading Seminars “The Roots of Embodied Mind” – organized by Center for Knowledge and Cognition, University of Bologna – Alma Mater Studiorum (November-April)

Public Engagement

- 2024 “AI for no-body”
Podcast of the Department of Philosophy of the University of Bologna – Alma Mater Studiorum. In collaboration with Stefano De Giorgis.
- 2023 “Quale filosofia per la robotica?”
Poster session “Giornata Mondiale della Filosofia”, 21/11/2023
- 2019 Review of the book: “Iconologie del tatuaggio: scritture del corpo e oscillazioni identitarie”, Italian Journal *Che fare*, 8/10/2019

Public Roles in Academia

- 2022 – now Ph.D students’ Representative in the Department council

Peer-review and editorial service

- *International Journal of Social Robotics* (x15)
- *Philosophical Psychology* (x2)

Ongoing Scientific Collaborations

- Lorenzo Cominelli – University of Pisa, Technologist at Information Engineering Department (DII), research group on the investigation of the Uncanny Valley Effect in the android Abel
- Clara Gangemi – IMT Lucca, co-writing a paper on qualitative and quantitative measures of experiments for testing the Uncanny Valley Effect
- Silvia Larghi (Milano Bicocca), Giacomo Zanotti (Milano Statale), Ilaria Alfieri (IULM), Maria Raffa (IULM) – Working group on Social Robotics and Human-Robot Interaction for the International Conference Robophilosophy 2024 and AISC 2024

Language skills

- Italian Native
- English Fluent (C1)
- Latin Basic Translation Skills