Martina BACARO

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Research Fellow in Philosophy of Cognitive Science
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Born 22/02/1992, Foligno (PG), Italy
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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; Social Robotics; Embodied & Enactive Cognition.

Current positions

Research Fellow in the PRIN 2022 project "Normative Kinds - Values and Classificatory Decisions in Science and Policy-making" Project No. 2022SYAW7A CUP J53D23008290006
Tutor: Prof. Raffaella Campaner
1/11/2024-now

PhD in Philosophy, Science, Cognition and Semiotics
University of Bologna – Alma Mater Studiorum
Supervisor: Prof. Francesco Bianchini
11/2021 – now

Past positions

Research Fellow at Department of Computer Science and Engineering
University of Bologna – Alma Mater Studiorum
09/2020- 11/2024
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

2023	**Visiting Ph.D student. University of Linköping (Sweden)**, Department of Cognitive Systems (6 months) Supervisor Prof. Tom Ziemke
2023	4th 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: *Summa cum laude*

| 2011-2015 | **B.Sc. Linguistics and Italian Literature** |
| | Department of Italian Literature, University of Perugia |

Grants

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

Publications

Journal Articles and Chapters

| Forthcoming (2025) | **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	"Models of Social Cognition as Normative Kinds. The Case of Learning from Demonstration in Social Robotics" EENPS 5th Biennial Conference, Workshop "Normative Kinds. Values and Classificatory Decisions in Science and Policymaking", Krakow, 10/09/2024 (Invited)
2024	"From Attribution of Intentionality to Intentionality Detection. An Enactivist Account for Understanding Robots" Robophilosophy Conference 2024, Workshop "Mind (And) the Robot: On the Epistemology and Ethics of the Attribution of Mental States to Robots", Aarhus, 22/08/2024 (Peer reviewed, invited)
2024	"From Attribution of Intentionality to Intentionality Detection. An Enactivist Account for Understanding Robots" Workshop "The epistemology and ethics of the attribution of mental states to autonomous and intelligent systems", Milan, 24/06/2024 (Invited)
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. "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

Submitted	Ph.D Thesis in Philosophy, Science, Cognition, and Semiotics (University of Bologna – Alma Mater Studiorum) Title: Tu, Robot. Verso nuovi modelli di interazione tra umani e robot English version: You, Robot. Towards new models for the interaction between humans and robots.

Journal Articles

In preparation	What does the robot sees? A semiotic perspective on robotic algorithms for understanding humans in HRI, In Dondero, M.G., Pinotti, A., Dalmasso, A. C. and Conte, P. *AlgoMedia. The Image at the Time of Artificial Intelligence*, Springer, Dordrecht.
In preparation	Enactivist HRI. Autonomy, Intentionality, and Participatory Sense-Making. Co-authored 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

2019 – now	Collaboration with "Archilabò" – Cooperative for Education and Digital Competences – Teacher of courses for Middle and High School in Robotics and 3D design
2021 – 2024	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 – 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?" "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

| 2024 – now | Fellow researchers' Representative in the UNIBO Department of Philosophy council |
| 2022 – 2024 | Ph.D students' Representative in the UNIBO Department of Philosophy council |

Peer-review and editorial service

- *International Journal of Social Robotics* (x18)
- *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