Caterina Moruzzi, Ph.D.

cmoruzzi@ed.ac.uk   caterinamoruzzi.weebly.com
ORCID ID: 0000-0002-9728-3873

Areas of Specialisation: Philosophy of Technology, Philosophy of Art, Human-Computer Co-creativity
Areas of Competence: Philosophy of Mind, Philosophy of Science, Music Theory, Musicology

Academic Positions

Chancellor's Fellow   10/2023 –
School of Design/Design Informatics, University of Edinburgh
- Responsibilities: independent research and funding acquisition for the first two years, After then, teaching and supervision at undergraduate and graduate level. Administrative responsibilities associated with research and teaching.

Research Associate   10/2020 – 09/2023
Department of Philosophy, University of Konstanz
- Habilitation Project: "Natural and Artificial Creativity." Funded by "Artificial Intelligence Baden-Württemberg" strategy.
- Responsibilities: independent research and funding acquisition, teaching and supervision at undergraduate and graduate level, administrative responsibilities associated with research and teaching.

Postdoctoral Researcher   10/2019 – 09/2020
Interdepartmental Centre for Knowledge Interchange, Università degli Studi di Torino
- Project: "The Interdisciplinary Implications of the New Frontier of Artificial Intelligence."
- Responsibilities: independent research and funding acquisition, administrative responsibilities associated with research and teaching.

Postdoctoral Researcher   01/2019 – 09/2019
Faculty of Arts, University of Nottingham
- Project: "Creativity in Generative Models of Music Composition". Funded by the Next Steps Postdoctoral Bursary of the AHRC-Midlands3Cities.
- Responsibilities: independent research and funding acquisition, administrative responsibilities associated with research and teaching.

Teaching Assistant   09/2015 – 09/2018
Departments of Philosophy and Music, University of Nottingham
- Responsibilities: contributing to the design, syllabi, and organisation of departmental course offerings and examinations. Advising, supporting, and mentoring undergraduate and graduate students.

Education

Ph.D. in Philosophy (no corrections), University of Nottingham   2018
- Fully funded by the Arts and Humanities Research Council - Midlands3Cities.
  Amount: fees + **£14,210 p.a.** (with annual rise for inflation).

Graduate Research Trainee, Department of Philosophy, McGill University, Montréal   2016
- Funded by Midlands3Cities Graduate School Travel Prize and Midlands3Cities Student Development Fund. Amount: **£1,982**.

MA in Philosophy (110/110 cum laude), Università Alma Mater Studiorum, Bologna   2014
- Fully funded by the Collegio Superiore, Institute of Advanced Studies, Università di Bologna.
  Amount: **€3,000 p.a.** + accommodation.

B.Mus in Piano (110/110 cum laude), Conservatorio G.B. Martini, Bologna   2014

BA in Philosophy (110/110 cum laude), Università Alma Mater Studiorum, Bologna   2012

Selected Publications

Peer-reviewed Journal Articles

2022   Moruzzi, Caterina. "Creative Agents: Rethinking Agency and Creativity in Human and Artificial Systems." Journal of Aesthetics and Phenomenology, DOI: 10.1080/20539320.2022.2150470.

2022   El-Assady, Menna, Moruzzi, Caterina. "Which Biases and Reasoning Pitfalls do Explanations Trigger? Decomposing Communication Processes in Human-AI Interaction." Special Issue on Human-Centered Visualization Approaches to AI Explainability, Interpretability, Understanding, and Ethics, IEEE Computer Society.

2022   Moruzzi, Caterina. "Everyone Can Change a Musical Work." The British Journal of Aesthetics 62(1): 1–13.

2020   Moruzzi, Caterina. "Artificial Creativity and General Intelligence." Journal of Science and Technology in the Arts 12(3): 84-99.

2020   Moruzzi, Caterina. "Measuring Creativity: An Account of Natural and Artificial Creativity." European Journal for Philosophy of Science 11(1).

2019   Moruzzi, Caterina. "The Assumptions Behind Musical Stage Theory: A Reply to Letts.", Journal of Aesthetics and Art Criticism, 78(3): 362-366.

2019   Moruzzi, Caterina. "An Ontological Justification for Contextual Authenticity." British Journal of Aesthetics, 59(4): 413-427.

2018   Moruzzi, Caterina. "Every Performance is a Stage: Musical Stage Theory as a Novel Account for the Ontology of Musical Works." Journal of Aesthetics and Art Criticism, 76(3): 341-351.

Chapters and Contributions

2022   Moruzzi, Caterina. "Toward Out-of-Distribution Generalization Through Inductive Biases." Philosophy and Theory of Artificial Intelligence 2021, Vincent C. Müller (ed.), Studies in Applied Philosophy, Epistemology and Rational Ethics. Springer, Cham.

2021   Moruzzi, Caterina. "Improvisation as Creative Performance." Handbook of Philosophy and Improvisation in the Arts, Alessandro Bertinetto and Marcello Ruta (eds.), London: Routledge.

2020   Moruzzi, Caterina. "Looking for Creativity: GANs as a Paradigm of Autonomy in Software for Music Composition." Be My GAN: Arte e Intelligenza Artificiale, Alice Barale (ed.), Milano: Jaca Book.

2020   Moruzzi, Caterina. "Can a Computer Create a Musical Work? Creativity and Autonomy of AI Software for Music Composition." The Age of Artificial Intelligence: An Exploration, Steven Gouveia (ed.), Vernon Press.

2018   Moruzzi, Caterina. "Creative AI: Music Composition Programs as an Extension of the Composer's Mind." Philosophy and Theory of Artificial Intelligence 2017, Vincent C. Müller (ed.), SAPERE; Berlin: Springer.

Peer-reviewed Conference Proceedings

2022   Bouhadjar, Younes, Moruzzi, Caterina and Payvand, Melika. "Prediction: An Algorithmic Principle Meeting Neuroscience and Machine Learning Halfway." Proceedings of the 3rd International Workshop on Human-Like Computing at the 2nd International Joint Conference on Learning & Reasoning 2022.

2022   Moruzzi, Caterina. "The (Artificial) Physicality of Creativity: How Embodiment Influences Perceptions of Creativity." Proceedings of International Conference on Computational Creativity (ICCC 2022).

2022   Moruzzi, Caterina. "Perceptions of Creativity in Artistic and Scientific Processes." Proceedings of the 10th Conference on Computation, Communication, Aesthetics & X (xCoAx2022).

2022   Moruzzi, Caterina. "Climbing the Ladder: How Agents Reach Counterfactual Thinking." Proceedings of the 14th International Conference on Agents and Artificial Intelligence, 3: 555-560.

2020   Moruzzi, Caterina. "Should Human Artists Fear AI? A Report on the Perception of Creative AI", Proceedings of Conference on Computation, Communication, Aesthetics & X (xCoAx2020), pp. 170-185.

2019   Moruzzi, Caterina. "AI-Generated Music: Creativity and Autonomy." Proceedings of Conference on Artificial Intelligence and Simulation of Behaviour (AISB) 2019.

Editorships

2022 Fossa, Fabio, Moruzzi, Caterina and Verdicchio, Mario (eds.). "Creativity in the Light of AI." Special issue in Odradek.

2022 Herman, Laura and Moruzzi, Caterina (eds.). Proceedings of the ICCC 2022 workshop "The Role of Embodiment in Perceptions of Natural and Artificial Creativity."

Other

2023 Moruzzi, Caterina. Research Summary of "Creative Agents: Rethinking Agency and Creativity in Human and Artificial Systems," Montreal AI Ethics Institute.

Selected Projects and Grants

(Former) Principal Investigator	2023-2025

Project: "Embodied Agents in Contemporary Visual Art: How Robotics and AI Could Influence Creativity"
- In collaboration with Prof. Frederic Fol Leymarie, Goldsmiths College, University of London. Funded by the AHRC-DFG, UK-German Funding initiative in the Humanities. Recipient of the highest score on the UKRI Peer Reviewer grading scale (6). The funding was transferred to Prof. Oliver Deussen, University of Konstanz in 2023, due to the infeasibility of transferring the funding to Moruzzi's new organisation. Amount: **€860,000**.

Principal Investigator	2021-2022

Project: "The Role of Embodiment in the Perception of Human and Artificial Creativity"
- In collaboration with Adobe Research and Oxford Internet Institute. Funded by the Intersectoral Cooperation Programme, Institute for Advanced Study, University of Konstanz. Amount: **€10,000**.

Co-Investigator	2022-2023

Project: "AI Futures and the Curated Visitor Experience"
- In collaboration with Oxford Internet Institute. Funded by Minderoo-Oxford Challenge Fund in AI Governance. Amount: **£25,000**.

Principal Investigator	2020-2021

Project: "Agency and Scientific Creativity"
- Funded by the Dr.August und Annelies Karst Stiftung. Amount: **€1,800**.

Knowledge Exchange	2015-2023

Funding received for international workshops and public engagement events
- Third-party funding for the organisation of events listed in the "Event organisation" section from: Analysis Trust, Arts and Humanities Research Council Cohort Development Fund, Johner Institut GmbH, Stadtwerke Konstanz. Amount: ca. **£30,000**.
- Third-party funding for presenting research at the conferences listed in the "Selected Research Talks" section from: Midlands3Cities Student Development Fund, Leverhulme Centre for the Future of Intelligence, British Society of Aesthetics Travel Stipend, Chayes Travel Fund, Artificial Intelligence and Simulation of Behaviour fund, Swiss Research National Funding, and Arché Society. Amount: ca. **£6,500**.

Honors

Affiliate, Centre for Technomoral Futures, University of Edinburgh	2023-present
Member, AI&Arts Interest Group, Alan Turing Institute	2023-present
Board Member, Centre for Human Data Society, University of Konstanz	2022-2023
Associated Fellow, Institute for Advanced Study, University of Konstanz	2021-present
Honorary Research Associate, Department of Music, University of Nottingham	2018-2022
Associate Fellow, The Higher Education Academy of the U.K.	2016-present
Fellow, Institute of Advanced Studies, Università di Bologna	2012-2014
Youth Merit Award, Rotary Club Bologna	2009

Selected Teaching

School of X: Computation, Communication, Aesthetics, and X — 2023
Department of Philosophy & Department of Language, Art, and Media, University of Konstanz
- Interdisciplinary summer school in collaboration with University of Lisbon, Università degli Studi di Bergamo, University of Porto, Abertay University, Sarah Lawrence College. Funded by Teaching Innovation Fund (TIF). Amount: **€3,175**.

The Present and Future of AI Research — 2022
Departments of Philosophy and Linguistics, University of Konstanz
- In co-teaching with Jun.-Prof. Dr. Diego Frassinelli, Department of Linguistics. PG seminar with innovative design, including a final international workshop. Funded by Transdepartmental Collaborative Teaching Grant, Institute for Advanced Study, University of Konstanz. Amount: **€5,000**.

Thinking Fast and Slow: What Can Computers Learn from the Human Mind? — 2021
Department of Philosophy, University of Konstanz
- PG seminar. Responsibilities: preparing syllabus and delivering seminars, preparing and marking coursework and exams, pastoral care of students.

Cutting-Edge Debates in Artificial Intelligence — 2021
Departments of Philosophy and Linguistics, University of Konstanz
- PG seminar, in co-teaching with Jun.-Prof. Dr. Diego Frassinelli, Department of Linguistics. Responsibilities: designing syllabus, pastoral care of students, preparation and evaluation of assignments.

Introduction to the Philosophy of Art — 2020
Department of Philosophy, University of Konstanz
- UG seminar. Responsibilities: designing syllabus, pastoral care of students, preparation and evaluation of assignments.

MA Pathways — 2018
Department of Music, University of Nottingham
- PG module aimed at preparing students for further (doctoral) research. Responsibilities: designing syllabus and delivering lectures and seminars, preparation and evaluation of assignments.

Introduction to Ethics — 2017
Department of Philosophy, University of Nottingham
- UG module. Responsibilities: adapting syllabus and delivering lectures for a group of students who could not attend the lectures delivered by the Module Convenor.

Appearance and Reality — 2017
Department of Philosophy, University of Nottingham
- Large UG module (240 students). Responsibilities: designing syllabus and delivering lectures and seminars, preparation and evaluation of assignments.

Research Techniques — 2016
Department of Music, University of Nottingham
- PG module designed to assist students with their graduate studies and prepare them for doctoral programmes. Responsibilities: adapting syllabus to students' needs, preparing and delivering lectures.

Self, Mind, and Body — 2016, 2018
Department of Philosophy, University of Nottingham
- UG seminar. Responsibilities: designing and delivering seminars, preparation and evaluation of assignments.

Introduction to the Philosophy and Aesthetics of Music — 2015
Department of Music, University of Nottingham
- UG module. Responsibilities: designing and delivering lectures of the module, preparing and delivering seminars, preparation and evaluation of assignments.

Selected Research Talks (Refereed and *Invited)

"AI and Art: Non-Human, Still Human, or All Too Human?', 7th International Conference on the History and Philosophy of Computing (HaPoC), Warsaw, Poland. October 2023.

* "Creativity and Embodiment in Digital Art'. As part of the course 'Digital Transformation in Contemporary Arts", convened by Maddalena Mazzocut-Mis, School of Design, Politecnico di Milano, Italy. September 2023.

"Perceived Embodiment and Creativity in Digital Art', 7th Marconi Institute for Creativity Conference 2023. Trieste, Italy. September 2023.

* Panel member at the SensiLab International Workshop on Co-creative AI, Monash University's Prato Centre, Italy. June 2023.

* "Imagination, Creativity, and Agency", Conference: Imagination and Creativity, Geneva, Switzerland. May 2023.

"The Generative Revolution: How AI will Transform Creativity", KI Camp 2023. Berlin, Germany. April 2023.

"Perceptions of Creativity in Artistic and Scientific Processes," 10th Conference on Computation, Communication, Aesthetics & X (xCoAx 2022), Coimbra, Portugal. July 2022.

'Prediction: An Algorithmic Principle Meeting Neuroscience and Machine Learning Halfway', 3rd International Workshop on Human-Like Computing at the 2nd International Joint Conference on Learning & Reasoning (IJCLR), Windsor, UK. September 2022.

"The (Artificial) Physicality of Creativity: How Embodiment Influences Perceptions of Creativity," International Conference on Computational Creativity 2022, Bozen, Italy. June 2022.

* "Shared Agency and Causation in Dynamics of Human-AI Interaction," Conference on Formal Models of Causation in Law, ZeRdiT centre, University of Hamburg, Germany. June 2022.

* Invited Guest at the 2022 Edition of the CapoCaccia Workshops toward Neuromorphic Intelligence, Alghero, Italy. May 2022.

* "Artificial Creativity: Promises and Challenges," guest lecture for the course on Philosophy of Technology and AI, led by Luca Possati, University of Porto. April 2022.

* "From Availability to Interaction," Impulse Talk at the International Colloquium of the Centre for Human Data Society, University of Konstanz, Germany. April 2022.

* "Causal Representation: Toward More Robust Artificial Intelligence," Philosophy of Science Colloquium, University of Bern, Switzerland. March 2022.

"Climbing the Ladder: How Agents Reach Counterfactual Thinking," 14th International Conference on Agents and Artificial Intelligence. Online. February 2022.

"Reaching Out-of-Distribution Generalization Through Robustness," 4th Conference on Philosophy and Theory of Artificial Intelligence. Online. September 2021.

"On the Relevance of Understanding for Creativity," Conference on Artificial Intelligence and Simulation of Behaviour (AISB2021). Online. April 2021.

"Everyone Can Change a Musical Work," American Society for Aesthetics Pacific Meeting. Online. March 2021.

* "What's the Point of Machine Art? Reflecting on AI Art and its Discontents," Scottish Aesthetics Forum Talk. Online. February 2021.

* "Disclosing Musical Works' Meaning: A Comment on Dodd's *Being True to Works of Music*," American Philosophical Association Eastern Meeting 2021. Online. January 2021.

"Humans Don't Like AI Art," 8th Conference on Computation, Communication, Aesthetics & X (xCoAx 2020). Online. July 2020.

* "Artificial Intelligence and Creativity," guest lecture, Philosophy Department, Università Statale di Milano, Italy. November 2019.

"Intentionality and Creativity in AI-Generated Music," Future Minds: The Metaphysics and Ethics of AI, Ernst Mach Workshop VIII, Czech Academy of Sciences, Prague. June 2019.

* "Learning Through Creativity," Symposium 'Ethics and Philosophy of Machine Learning in Science,' Max Planck Institute for Intelligent System, Tübingen, Germany. May 2019.

"Generative Adversarial Networks as a Creative Model of Music Composition," British Society of Aesthetics Connections conference 2019: Creativity Across the Arts and Sciences, Bristol, UK. April 2019.

"Generative Adversarial Networks: An Autonomous Model of Music Composition," Algorithmic Music: Value, Creativity and Artificial Intelligence, Royal Music Association, London, UK. April 2019.

"Robo-Bach: Can Artificial Intelligence be Musically Creative?," Creativity in Art, Science, and Mind conference, Leverhulme Centre for the Future of Intelligence, University of Cambridge, UK. July 2018.

"Authenticity in Practice: An Ontological Justification for Contextual Authenticity," American Society for Aesthetics Pacific Meeting, Asilomar, California, USA. April 2018.

"A Defence of Musical Stage Theory," Arché 9th Graduate Conference, University of St Andrews, UK. October 2016.

Event Organisation

Conference Computation, Communication, Aesthetics & X (xCoAx 2023)	Weimar, July 2023
Exhibition The Algorithmic Pedestal	London, January 2023
Workshop The Present and Future of AI Research	Konstanz, July 2022
Workshop The Role of Embodiment in Human & Artificial Creativity	Bozen, July 2022
Public event TEDx Konstanz 2022	Konstanz, May 2022
Workshop Agency, Life, and Creativity	Konstanz, February 2022
Conference Philosophy in Progress	Nottingham, January 2018
Philosophy Postgraduate Conference	Birmingham, June 2017
Workshop Aesthetics of Computer Music	Leeds, February 2017
Conference BOOOM! Making Research Memorable	Birmingham, July 2015

Other Experience

Editor at Humanities & Social Sciences Communications — 2022-present

Committee Memberships — 2021-present
- Representative in the committee of the Humanities Section. University of Konstanz, 2021-2023.
- Member of the Program Committee of the Conference on Computation, Communication, Aesthetics & X, International Conference on Computational Creativity, EPIA 2023, Thematic Track on AI, Generation and Creativity.
- Member of DAAD: German Academic Exchange Service Selection committee.
- Member of Review Panel of the Research Grants Council (RGC) of Hong Kong.

Research Assistant — UniNottingham, 2018-2019
- Project: "Scoping Study: Audience Perceptions of AI Interaction in Different Modes of Engagement." Schools of Humanities and Medicine, University of Nottingham. Funded by the University of Nottingham Research Priority Area Development Fund. Collaborator in the creation of an outstanding impact case study to submit for REF2021 and to the application to a £100,000 Arts and Humanities Research Council Follow on Funding for Impact and Engagement scheme.
- Project: "Unpaid Debts: Rethinking the Causes and Consequences of Sovereign Default," Department of International Relations, University of Nottingham. Funded by UK Research and Innovation.
- Project: "Historical Music Pedagogy project," Department of Music, University of Nottingham. Funded by the Arts and Humanities Research Council.

Library Adviser at James Cameron-Gifford Library — UniNottingham, 2018

Support Worker, MA Mentor, and Exam Invigilator — UniNottingham, 2015-2019

Assistant in the Digital Humanities Centre — UniNottingham, 2015

Reviewer for academic journals — 2015-present

Journal of Aesthetics and Art Criticism, *Canadian Journal of Philosophy*, *Organon F-Journal of Analytic Philosophy*, *European Journal for Philosophy of Science*, *Frontiers in Robotics and AI*, *British Journal of Aesthetics*, *The Journal for the Philosophy of Language*, *Mind and the Arts*, *Biology&Philosophy*, *Philosophies*, *Leonardo*, *Inquiry*, *Arts* (MDPI), Oxford University Press, Routledge (book proposals).

Skills

Data Analysis: Quantitative and qualitative data analysis (Jupyter Notebook, Python, Google Data Studio, Qualtrics, Prolific). Python for Data Science, Data Visualization with Python, Data Analysis Using Python.

IT: Google Workspace, Office suite, macOS suite, Adobe, LATEX, WordPress, Collaboration software (Slack, Miro, Asana, Trello). Programming: Python, Arduino programming environment.

Digital Humanities: Management of database and multimedia archives. Use of software and equipment for digital humanities research. E-Learning and E-Teaching techniques.

Languages: Italian: Native Speaker; English: Proficient; German: Advanced; French: Intermediate; Portuguese: Basic.

Funding Administration: Budget management systems (HIS-QIS-FSV).