

# Ekaterina Sangati

Maiden name: Abramova

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## Areas of specialization

Embodied Cognition, Social Cognition, Complex Systems, Language Evolution

## Methodological toolkit

Behavioral experiments, agent-based modeling, conceptual analysis, physiology.

## Current position

2023  
present

- Okinawa Institute of Science and Technology

Postdoctoral Scholar

Investigating how simple units can collectively carry out complex tasks, using agent based models within reinforcement learning and Bayesian frameworks.

Advisor: Prof. Kenji Doya

## Academic experience

2020 - 2023

Okinawa Institute of Science and Technology

Postdoctoral Scholar

Led projects on active perception, video chat communication and joint action. Established protocols for carrying out human subject research studies.

Advisor: Dr. Tom Froese

## Education

2012-2019

PhD in Cognitive Science and Philosophy of Mind, *cum laude*

Radboud University Nijmegen, Nijmegen, The Netherlands

Thesis: Joint Action, an Enactive Mechanistic Account

Advisors: Prof. Marc Slors, Dr. Iris van Rooij

- 2010-2012 MSc in Brain and Cognitive Sciences  
University of Amsterdam, Amsterdam, The Netherlands  
Thesis: Iterated learning of gestures: Between cultural transmission and critical periods  
Advisors: Prof. Simon Kirby, Dr. Kenny Smith, Dr. Jelle Zuidema
- 2008-2010 MA in Philosophy of Behavioral Science  
Radboud University Nijmegen, Nijmegen, The Netherlands  
Thesis: On two ways of getting from life to mind  
Advisors: Prof. Marc Slors, Prof. Jan Bransen, Dr. Bart Geurts
- 2005-2008 BA in Interdisciplinary Individual Studies in the Humanities  
Major in Psychology, Minors in Anthropology and Philosophy  
Jagiellonian University, Cracow, Poland  
Thesis: Ethnopsychologies, ethnonarratives: Towards a cross-cultural model of folk psychology  
Advisors: Prof. Marc Slors, Prof. Halina Grzymała-Moszczyńska

#### Grants, honors & awards

- 2024-2026 Kakenhi Grant-in-Aid for Scientific Research C, 24K15688, (¥3,500,000). Co-Investigator: Acer Chang, Rikkyo University.
- 2022-2024 Kakenhi Grant-in-Aid for Early-Career Scientists, 22K18163 (¥3,500,000)
- 2012-2017 PhDs in the Humanities grant, PGW-12-32, awarded by the Netherlands Organization for Scientific Research (€205,013)
- 2010-2012 Huygens Scholarship, awarded by Nuffic on behalf of the Dutch Minister for Education, Culture and Science (€57,958)
- 2008-2010 Radboud University Scholarship, awarded by Rector Magnificus of Radboud University Nijmegen (€16,000)
- 2007-2008 EU Erasmus Scholarship

#### Publications & talks

##### Journal articles

1. **Sangati, E.**, Stromberg, M-H., Sangati, F. & Lobo, L. (under review). Active and passive perception in several sense modalities: Systematic review. *Psychological Review*.
2. **Sangati, E.** (2022) Turning language-science prospects into science. *Constructivist Foundations*, 18(1), 049-051.
3. James M. M., Rodrigues J., Montoya M., Koshkina N., Sangati F., **Sangati E.**, Ratcliffe M., Carel H. & Froese T. (2022) The Pandemic Experience Survey II: A Second Corpus of Subject Reports of Life Under Social Restrictions During COVID-19 in the UK, Japan, and Mexico. *Frontiers in Public Health*, 10, 913096.
4. **Sangati, E.**, Slors, M., Müller, B., & Van Rooij, I. (2021). Joint Simon Effect in movement trajectories. *Plos One*, 16(12), e0261735.

5. Reséndiz-Benhumea, G. M. , **Sangati E.**, Sangati F., Keshmiri S. and Froese T. (2021). Shrunk social brains? A minimal model of the role of social interaction in neural complexity. *Frontiers in Neurorobotics*, 15, 634085.
6. **Abramova, E.**, & Slors, M. (2018). Mechanistic explanation for enactive sociality. *Phenomenology and the Cognitive Sciences*, 18(2), 401–424.
7. **Abramova, E.** (2018). The role of pantomime in gestural language evolution, its cognitive bases and an alternative. *Journal of Language Evolution*, 3(1), 26–40.
8. Vesper, C., **Abramova, E.**, Bütepage, J., Ciardo, F., Crossey, B., Effenberg, A., Hristova, D., Karlinsky, A., McEllin, L., Nijssen, S., Schmitz, L., Wahn, B. (2017). Joint action: Mental representations, shared information and general mechanisms for coordinating with others. *Frontiers in Psychology*, 2039.
9. **Abramova, E.**, & Slors, M. (2015). Social cognition in simple action coordination: A case for direct perception. *Consciousness & Cognition*, 36, 519–531.
10. **Abramova, K.**, & Villalobos, M. (2015). Stability and functional closure: The apparent (Ur-)intentionality of living beings and the game of content. *Philosophia*, 43(3), 651–668.
11. Smith, K., **Abramova, K.**, Cartmill, E., & Kirby, S. (unpublished). The experimental study of sign language emergence.
12. **Abramova, E.** (2008). Integracyjna funkcja personalnej narracji mitycznej w dobie współczesnej wielogłosowości “ja” [Integrative function of personal myth narrative for multi-voiced selfhood]. In K. Jarzyńska, A. Kapusta, A. Pochłódka, & M. Wojciechowska (Eds.). *Myth Studies Yearly, Vol. II*. Kraków: Collegium Columbinum.

#### Conference papers (peer reviewed)

1. **Sangati, E.**, Sangati, F., Slors, M., & Doya, K. (2024). The collaborative abilities of ChatGPT agents in a number guessing game. *Proceedings of the Joint Symposium of AROB-ISBC-SWARM 2024* (pp. 116–121). International Society of Artificial Life and Robotics.
2. **Sangati, E.**, Sangati, F., Cheng, Y-S, & Chang, A. Y-C. (2023). Between individual brains and collective behavior: Multi-level emergence in a group formation task. *Proceedings of the ALIFE 2023: The 2023 Conference on Artificial Life*.
3. **Sangati, E.**, Lobo, L., Estelle, S., Sangati, F., Tavassoli, S., & Froese, T. (2023). Uncovering the role of intention in active and passive perception. *Proceedings of the Annual Cognitive Science Meeting*.
4. Keshmiri, S., Sangati, F. & **Sangati, E.** (2022). Information integration in division of labor: Validation of earlier findings. In *Proceedings of the Joint Symposium of AROB-ISBC-SWARM 2022* (pp. 24–29). International Society of Artificial Life and Robotics.

5. **Sangati E.**, Keshmiri S. & Sangati F. (2021). Evolution of neural complexity in division of labor tasks. *Proceedings of the ALIFE 2021: The 2021 Conference on Artificial Life*, pp. 88–97. ASME.
6. Reséndiz-Benhumea, G. M., **Sangati, E.**, & Froese, T. (2020). Levels of coupling in dyadic interaction: An analysis of neural and behavioral complexity. *IEEE Symposium Series on Computational Intelligence*, pp. 2250–2256.
7. **Sangati, E.** & Hoffman, S. (2020). The role of co-representation in joint tracking. In: J. Bongard, J. Lovato, L. Hebert-Dufresne, R. Dasari, and L. Soros (Eds.), *Proceedings of the ALIFE 2020: The 2020 Conference on Artificial Life*, pp. 526–534. The MIT Press.
8. Sangati, F., **Abramova, E.**, & Monti, J. (2018). DialettiBot: a Telegram bot for crowdsourcing recordings of Italian dialects. In E. Cabrio, A. Mazzei, & F. Tamburini (Eds.), *Proceedings of the Fifth Italian Conference on Computational Linguistics*.
9. **Abramova, E.**, Slors, M., & van Rooij, I. (2017). Enactive mechanistic explanation of social cognition. In G. Gunzelmann, A. Howes, T. Tenbrink, & E. J. Davelaar (Eds.), *Proceedings of the 39th Annual Cognitive Science Meeting*, pp. 45–50. Austin: Cognitive Science Society.
10. **Abramova, E.**, & Fernández, R. (2016). Questioning arbitrariness in language: A data-driven study of conventional iconicity. In *Proceedings of the 2016 Conference of the North American Chapter of the Association for Computational Linguistics: Human Language Technologies*, pp. 343–352. San Diego: ACL.
11. **Abramova, E.** (2016). Triadic ontogenetic ritualization: An overlooked possibility. In S. G. Roberts, C. Cuskley, L. McCrohon, L. Barceló-Coblijn, O. Feher, & T. Verhoef (Eds.) *The Evolution of Language: Proceedings of the 11th International Conference*.
12. Schouwstra, M., **Abramova, K.**, Medi, Y. M., Smith, K., and Kirby, S. (2014). From silent gesture to artificial sign languages. *Evolang X: 10th International Conference on the Evolution of Language*.
13. **Abramova, E.**, Fernández, R., & Sangati, F. (2013). Automatic labeling of phonesthemic senses. In M. Knauff, M. Pauen, N. Sebanz, & I. Wachsmuth (Eds.), *Proceedings of the 35th Annual Conference of the Cognitive Science Society*, pp. 1696–1701. Austin: Cognitive Science Society.

#### Invited talks

1. Collective adaptivity. June 2024, Analytic Philosophy and E-Cognition Workshop, Granada, Spain.
2. Introduction to embodied cognition and its possible tech applications. August 2016, Radboud Summer School, Nijmegen, The Netherlands.
3. Social cognition in simple action coordination, January 2016, Bochum Consciousness and Cognition Colloquium, Bochum, Germany. Joint talk with Marc Slors.

4. Non-representationalists in cognitive science: What's the big deal? August 2015, Radboud Summer School, Nijmegen, The Netherlands.
5. Gesture and the iterated learning paradigm, November 2012, Amsterdam Gesture Center, Amsterdam, The Netherlands.

#### Conference presentations

1. Sangati, E., Lobo, L. & Froese, T. (2023). Uncovering facets of active perception. Poster presentation at the 8th CiNet Conference, March 7-9, Osaka, Japan.
2. Villalobos, M., & Abramova, E. (2016). Two senses of 'recursion' in Maturana's theory of language: A necessary distinction. Oral presentation at the First International Conference on Language and Enaction, June 1-3, Clermont-Ferrand, France.
3. Abramova, K. (2014). Towards enactive origins of reference. Poster presentation at the 33rd Annual Spindel Conference, Alternative Models of the Mind, October 23-25, Memphis, USA.
4. Abramova, E. (2014). Beyond the mirror, into the world: Probing the Mirror System Hypothesis. Oral presentation at the First Conference of the International Association for Cognitive Semiotics, September 25-27, Lund, Sweden.
5. Abramova, E. (2013). From gestures to sign languages in the lab: Challenges and perspectives. Oral presentation at Mapping Multimodal Dialogue workshop, November 22-23, Aachen, Germany.
6. Abramova, E. (2013). Enactive language evolution. Oral presentation at Embodied Embedded Cognition and Psychiatry workshop, September 24-25, Nijmegen, The Netherlands.
7. Abramova, E. (2013). Embodied origins of language through an embodied account of iconicity. Oral presentation at Iconicity: East meets West, 9th International Symposium on Iconicity in Language and Literature, May 3-5, Tokyo, Japan.

#### Academic leadership

2020-2021

As a single senior researcher with relevant expertise in a new research group (Embodied Cognitive Science Unit at OIST), I have contributed to the development of infrastructure and protocols for conducting Human Subject Research (HSR). This included organizing procedures for

- application for the local Ethics Committee approval
- participant recruitment
- definition of a Lab Manager role and responsibility
- handling of informed consent
- handling of participant fee payment
- definition of data storage and management protocols

Additionally, I helped establish lab workflows:

- project management
- lab inventorization
- technical team support
- knowledge sharing

### Teaching experience

- 2016-2017 Language Evolution, MPhil in Philosophy
- 2015-2016 Varieties of Embodied Cognition, MPhil in Philosophy  
The Analytic Debate of Self-knowledge, BA in Philosophy

#### Competent to teach:

Introduction to Cognitive Science, Introduction to Artificial Intelligence, Philosophy of Mind, Embodied Cognition, Language and Interaction, Explanatory Frameworks in Cognitive Science, Cognitive Modeling

### Industry experience

- 2019 Nuance Communications, remote  
NLU language specialist  
Localized NLU software to Polish.
- 2018-2019 Dimension S.r.l., Trento, Italy  
NLP Developer  
Developed a search engine and a conversational interface for financial applications.
- 2018 University of Exeter, Exeter, United Kingdom  
Research Assistant  
Implemented a database support and customized the front-end for a community-driven wiki.

### Professional Service

#### Conference and workshop organization

Modeling Minds II: Levels of Explanation in Cognitive Science (December 2016)  
Modeling Minds I: Philosophy Meets Cognitive Modeling (April 2015)  
Hybrids: Philosophy and Psychology Intersection (May 2008)

#### Other

Associate Editor for Adaptive Behavior (2020-present)  
Reviewer for paper submissions at Alife (2020-present)  
Reviewer for paper submissions at CogSci (2015-present)  
Coordinator for the Donders Computational Cognitive Science group seminars (2014-2016)

Reviewer for chapter submissions for a special volume in honor of Rinneke Verbrugge (2015)  
Reviewer for submissions to the symposium Varieties of Enactivism at AISB (2014)  
Presenter at Culture Evolves Exhibit within Edinburgh Science Festival, Edinburgh, Scotland, UK (2012)  
Active member of student societies at Jagiellonian University, Cracow, Poland (2006-2007)

#### Languages

Native proficiency: English, Polish, Russian  
Advanced: Italian  
Beginner: Dutch, German, Japanese

#### Computer skills

Proficient: Python, MatLab, R, SPSS, MatLab Psychtoolbox, Processing, databases (MongoDB, ElasticSearch)  
Basic: HTML, CSS, JavaScript

Projects can be found on <https://github.com/katsangati>

#### References

Reference letters available upon request.