

Massimo De Agrò

Post-Doctoral Fellow, Center for Mind/Brain Sciences, University of Trento, Italy

Current Position

Jan 2024 - Today

Center for Mind/Brain Sciences, University of Trento, Italy - Post-doctoral fellow

I am interested in the brain simplification solutions of invertebrates. When constrained by a limited number of neurons, brains have to develop clever circuitry to save computational power while maintaining function. My main model species is the jumping spider, specifically its visual system. I aim at applying these simplification solutions to technological developments.

Research Experience

Jan 2023 - Dec 2023

BioRobotics Institute, Sant'Anna School of Advanced Studies, Italy - Post-doctoral researcher

Mar 2022 - Dec 2022

University of Florence, Italy - Post-doctoral fellowship

Mar 2021 - Feb 2022

Regensburg University, Germany - Post-doctoral researcher

Mar 2020 - Feb 2021

John Harvard Distinguished Science Fellows Program - Harvard University, USA - Post-doctoral fellowship

Jan 2015 - Sept 2016 - Jan 2020

University of Padua, Italy - Masters intern, then PhD student

Education

Oct 2016 - Sept 2019

University of Padua, Italy - PhD in Psychological Sciences

Oct 2014 - Jul 2016

University of Padua, Italy - Master degree in Cognitive Neuroscience and Clinical Neuropsychology.

Final mark: 110/110 (Cum laude)

Oct 2016 - Sept 2019

Università Pontificia Salesiana, Rome, Italy - Bachelor degree in Developmental and Educational Psychology

Final Mark: 29/30

Teaching

2016 - 2020

Assistant lecturer

for the "Animal Cognition" course held by Prof. Lucia Regolin in the University of Padua.

2016 - Present

Supervision

13 BSc thesis, 7 MSc thesis, 1 PhD abroad period

Personal Info

Place and date of birth

Rome, Italy. 08 Dec 1992

Work Address

Viale Rinaldo Piaggio, 34, 56025 Pontedera (PI), Italy

Phone

(+39) 327 28 19 310

E-mail

massimo.deagro@gmail.com

Skype

massimo.deagro@gmail.com

Links

massimodeagro.github.io

[Google Scholar](#)

Skills and abilities

Programming and Software

R, Python (OpenCV, PyTorch, Psychopy, YOLACT), Matlab, DeepLabCut

Design

FreeCad (3D), Inkscape (2D)

Electronics and mechanics

Circuit design, Arduino, Raspberry Pi, 3D printing (SLA and FDM), CNC

Relevant applications include the development of an automated robotic skinner box system for jumping spiders and a hovering spherical multi-directional treadmill for studying responses to visual stimuli.

Languages

Italian (native speaker), English (fluent)

Scientific community

Aug 2021

Conference - Keynote speaker

ECA2021 (32nd European Congress of Arachnology)

Feb 2020

Conference - Head organizer

10th "AISASP Student Meeting" (Associazione Italiana per lo Studio degli Artropodi Sociali e Presociali).

Sept 2019

Conference - Head organizer

6th ESCBC ("European Student Conference on Behaviour and Cognition")

Reviewing activities

eLife, Proceedings B, Biochemical and Biophysical Research Communication, Animal Behaviour, Frontiers in Psychology, Frontiers in Behavioural Neuroscience, Behavioural Processes, The European Zoological Journal.

Membership of scientific societies

ASAB (association for the study of animal behaviour), IUSSI (International Union for the Study of Social Insects), SIE (Italian Society of Ethology), ESA (European Society of Arachnology).

National and international collaborations

Dr. Paul Shamble - Yale School of Medicine, USA

Invertebrate neuroscience and electrophysiology

Dr Daniela Rößler - Max Plank Institute, Konstanz, Germany

Ethology and behavioural ecology of jumping spiders

Dr Tomer Czaczkes - University of Regensburg, Germany

Invertebrate behavioural economics

Prof. Elizabeth Jakob - University of Massachusetts Amherst, USA

Visual perception and psychophysics

Dr Lauren Sumner-Rooney - Museum für Naturkunde Berlin, Germany

Neuroanatomy of invertebrates, micro-CT scan

Outreach

2016 - 2019

Venetonight, Researchers' Night

University of Padua, Italy

I have organized and participated in the events held in Esapolis' living insect museum, in collaboration with the University of Padova, Italy.

2020

Invited speaker

"Micromegamondo" outreach online show. <https://www.facebook.com/micromegamondo/videos>

continuitive

Featuring in national and international outlets

Including: National Geographic, New York Times, RAI 3 - Radio 3 Scienza, Scientific American, Le Scienze - Mind, New Scientist.

Grants and awards

Total: €104,739.00

Oct 2023

Post-doc fellowship

Caritro foundation.

Amount: €70,000.00

Nov 2022

Travel grant

Synthesis+ transnational access.

Amount: €2,918.00

Sept 2021

Post doc fellowship

Dott. Giuseppe Guelfi prize, Accademia dei Lincei.

Amount: €22,947.00

Apr 2021

Research grant

Association for the Study of Animal Behaviour (ASAB) Research grant.

Amount: £3,949.85

Sept 2019

Conference organization grant

Cultural and scientific students' initiatives grant, University of Padua.

Amount: €4,300.00

Conference student prizes and grants

• CogEvo 2019 workshop, CiMeC, Rovereto, Italy.

• 5th ESCBC 2018 best talk award, Vienna, Austria.

• 4th ESCBC 2017 best talk award, České Budějovice, Czech Republic.

• ASAB 2016 (Association for the Study of Animal Behaviour) conference grant.

• (Dubrovnik Conference on Cognitive Science) financial support.