MCM

Project ID: 239546
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Neural Mechanisms Underlying Mate Preference and selection in Mice

From 2009-10-01 to 2013-09-30, closed project

Project details

Total cost: EUR 100 000
EU contribution: EUR 100 000
Coordinated in: Portugal

Topic(s):
PEOPLE-2007-4-3.IRG - Marie Curie Action: "International Reintegration Grants"

Call for proposal:
FP7-PEOPLE-IRG-2008
Funding scheme:
MC-IRG - International Re-integration Grants (IRG)

Objective

Mate choice is a behavior observed through all animal kingdom with deep evolutionary consequences, since only the genes of animals that can successfully mate will pass to the next generation. If not everybody has the ability of passing its genes, this means that each individual looks different at the eyes of choosers, which has classically been approached in terms of attractiveness. Mate selection implies 3 steps: 1) prospective mates have different attractiveness; 2) prospective mates broadcast signals that correlate with their attractiveness; 3) choosers can sense those signals and make a decision accordingly to their preferences. To influence animal’s decision, attractiveness cues must be picked up by the sensory systems of choosers and translated into electrical signals that can be used by higher brain structures to make a decision. A lot of effort has been dedicated to elucidate the nature of the cues utilized to broadcast attractiveness, but very little is known about the mechanistic basis for mate preference, how the decision to select a better mate based on the animal’s preferences is taken and how it is used to trigger the appropriate copulatory behavior. My long term goal is to obtain a mechanistic understanding of how the brain implements the necessary computations to achieve this goal. Using mice, my aims during the next 4 years are: 1) establish a behavioral paradigm to study mate preference and selection; 2) identify brain circuits involved in this behavior using immediate early genes as markers of neuronal activity; 3) using genetic tools, manipulate the activity of specific circuits to bias behavior. These studies will use an interdisciplinary approach to bridge evolutionary biology and neurobiology, and hopefully getter at a deeper understanding of this decision making process.

Related information

Result In Brief
Partner choice in the mouse world

Report Summaries
Final Report Summary - MCM (Neural Mechanisms Underlying Mate Preference and selection in Mice)
Coordinator
FUNDACAO CALOUSTE GULBENKIAN
AVENIDA BERNA 45
1000 LISBOA
Portugal

EU contribution: EUR 100 000

Activity type: Research Organisations

Administrative contact: José Mário Leite
Tel.: +351-214407937
Fax: +351-214407970
E-mail

Subjects
Coordination and Cooperation - Scientific Research

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