

Education

Bachelor in Hispanic Language and Literature, National Autonomous University of Mexico
Master in Science (Cognitive Robotics) Autonomous University of Morelos State
Predoctoral researcher Basque Center on Cognition Brain and Language

Research Experience:

Signal Processing in Neuroimaging(2022-), Basque Center on Cognition Brain and Language

Data analyst, MhGAP (2021) PAHO

Cognitive Robotics Lab (2019-2022), Center for Science Investigation, UAEM

Cognitive and Language Development Lab (2018-2022), Psychology School, UNAM

Psycholinguistics Lab (2016-2022), Psychology School, UNAM

Research Interests:

Neuroimaging

Multisensory integration -language-

Embodied cognition -meaning-

Language Processing

Cognitive Robotics

Language Acquisition -word and meaning- (typical and atypical)

Lexical networks -semantic and grammar interaction-

Research queries

Which is the relevance of multisensory integration in meaning and syntax emergence?

Which are the neural correlates of affordance based meaning? (i.e., tools Vs. food)

How do multisensory integration explain non-referential meaning?

How can we model language development/processing?

[?, ?, ?, ?]

Research queries

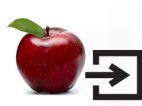
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Food



Object

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images/architecturePhD.p

Modelling of the McGurk effect, a multisensory integration illusion

visual /*ga*/

audition /*ba*/

perception [*da*]

images/mcgurk.png

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Self-Organized Internal Model Architecture (SOIMA)

images/soima_mcg.pdf

Note. Computer Architecture. Multisensory integration happens in the Multimodal Representation Map (MMR).

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Feature extraction/model training

Vision

Oriented Histograms of Regional Optic Flow

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Mel-frequency cepstral coefficients

Model validation

Psychopy -online-
Lipreading experiment

N= 36, n= 20

[?, ?, ?, ?, ?]

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Results

Congruent and Incongruent stimuli activation

Mutual Information: incongruent - congruent
stimuli

Linear Mixed Effects analysis

