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OVERVIEW

- Postdoctoral Fellow at **Johns Hopkins University**
- Published **12 scientific articles**, 8 first author, 3 corresponding author, latest in PNAS.
- Acquired over **\$300,000 of funding** in the form of fellowships and awards
- Experience in **teaching** both as a TA and instructor in my own courses
- **Mentored** over 13 undergraduate and graduate students
- Participation in **outreach activities** for community engagement and representation of minorities in STEM

CURRENT POSITION

Postdoctoral Fellow Johns Hopkins University (*April 2017 to date*) PI: Dr. Cynthia Moss.
Research title: Neural mechanisms of communication and echolocation sound processing in bats.

EDUCATION

PhD in Biology University of Buenos Aires (Argentina) (*Apr 2012 to Mar 2017*)
Thesis title: Dynamics, localization and activation of NF-kappa B during long-term memory consolidation in mice.
PI: Dr. Ramiro Freudenthal. Co-PI: Dr. Mariano Boccia. Grade: Outstanding.

Relevant courses and workshops

- **Neural Systems and Behavior Course**, Marine Biological Laboratory, Woods Hole, MA, (USA). Course directors: Dr. Hans Hofmann, Dr. André Fenton. (*06/2014 - 07/2014*).
- **2nd Latin American School of Advanced Neurochemistry: "The Synapse in Health and Disease."** International Society for Neurochemistry. UCA (Arg.) and Inst. Clemente Estable (Uruguay). Organizer: Dr. Francisco Barrantes. (*Sep 2-14 2012*)
- **Animal Communication and Human Language Workshop**. University of Maryland (USA). Organizers: Dr. Jonathan Fritz, Dr. Bill Idsardi, Dr. Gerald Wilkinson. (*Sep 22-24 2017*)

University degree (M. Sc equivalent) University of Buenos Aires (Arg.) (*Aug 2007- Dec 2011*)
M. Sc thesis title: *Signaling mechanisms in the anti-inflammatory effect of HO-1 in Prostate cancer.*
PI: Dr. Elba Vazquez. Supervisor: Dr. Geraldine Gueron.

FUNDING**Fellowships**

- **Human Frontier Science Program**. Postdoctoral HFSP fellowship for the project "Active and passive listening channels for auditory scene analysis". (3 years, \$150,000). (*awarded 03/2018*).
- **Pew Latin American Fellows** postdoctoral fellowship offer. (2 years, \$60,000, *declined in favor of Human Frontier Fellowship*). (*awarded 03/2018*).
- **Johns Hopkins University Dean's Science Teaching Postdoctoral Fellowship**, to conduct research and teach a full course (designed by the applicant) during the fall semester of 2018 (1 semester, \$25,000). (*awarded 01/2018*).
- **Doctoral Fellowship CONICET Argentina fellowship**. (5 years, \$60,000). (*04/2012 - 03/2017*).
- **University of Buenos Aires** incentive fellowship for M.Sc. equivalent thesis research. (1.5 years, \$9,000). (*07/2010 - 12/2011*).

Awards & Grants

- **Young Investigator Award from the International Society of Neuroethology.** (07/2020, \$1,200)
- **Society for Neuroscience Trainee Professional Development Award (TPDA)** (09/2019, \$1,000)
- **Konishi Award from the International Society of Neuroethology**, to develop a research project. (05/2019, \$2,500)
- **IBRO International Travel Award**, to participate in the Society for Neuroscience 46th annual meeting 2016. (05/2016, \$2,000)
- **Developing Neuroethology Award from the International Society of Neuroethology** to attend the International Neuroethology Conference 2016. (03/2016, \$700)
- **IBRO “USCRC’s North American Lab Activity” Award** for a 3 weeks internship at Dr. Cynthia Moss’ Lab and attending the Society for Neuroscience 45th annual meeting 2015. (09/2015 - 10/2015, \$9,000)
- **Award from the MBL and IBRO** to attend the Marine Biological Laboratory Neural Systems and Behavior Course. (06/2014 - 07/2014, \$10,000)
- **Award from the International Society of Neurochemistry** to participate in the course “2nd Latin American School of Advanced Neurochemistry: The Synapse in Health and Disease” and attend the International Society for Neurochemistry Special Conference 2012. (September 2-14 2012, \$1,000)

PUBLICATIONS

Scientific Papers (12 papers, 8 first author, 3 corresponding author)

- **Angeles Salles**, Clarice Diebold, Cynthia F. Moss. Echolocating bats accumulate information from acoustic snapshots to predict auditory object motion. *PNAS* (November 2020).
- Jackson Rossborough*, **Angeles Salles***, Laura Stidsholt*, Peter Madsen, Cindy Moss, Larry Hoffman. Evidence of in-flight head stabilization behavior in the Egyptian fruit bat. *bioRxiv* 10.1101/2020.10.15.341545 *and under review*. (2020)
- Clarice Diebold, **Angeles Salles**, Cynthia F. Moss. Adaptive echolocation and flight behaviors in bats can inspire technology innovations for sonar tracking and interception. *Sensors* 10.3390/s20102958 (2020)
- **Angeles Salles**, Sangwook Park, Harshavardhan Sundar, Silvio Macias, Mounya Elhilali, Cynthia Moss. Neural response selectivity to natural sounds in the bat midbrain. *Neuroscience* 10.1016/j.neuroscience.2019.11.047 *Cover article*. (2020)
- **Angeles Salles**, Kirsten Bohn, Cynthia Moss. Auditory communication processing in bats: What we know and where to go. *Behavioral Neuroscience* 10.1037/bne000308 (2019)
- Laura Stidsholt, Mark Johnson, Kristian Beedholm, Lasse Jakobsen, Kathrin Kugler, Signe Brinkløv, **Angeles Salles**, Cynthia Moss, Peter Madsen. A 2.6-gram sound and movement tag for studying the acoustic scene and kinematics of echolocating bats. *Methods in Ecology and Evolution* 10.1111/2041-210X.13108 (2018)
- **Angeles Salles**, Maria del Carmen Krawczyk, Mariano Blake, Arturo Romano, Mariano Martin Boccia, Ramiro Freudenthal. Requirement of NF-kappa B activation in different brain areas during long-term memory consolidation in two versions of a contextual one trial task. *Frontiers in Molecular Neuroscience* 10.3389/fnmol.2017.00104. (2017)
- Yanil Hepp*, **Angeles Salles***, Martin Carbó-Tano, Maria Eugenia Pedreira and Ramiro Freudenthal. Surface expression of NMDA receptors changes during memory consolidation in the crab neohelice granulata. *Learning and Memory* 10.1101/lm.041707.116. (2016)

- Verónica de la Fuente, Noel Federman, Gisela Zalcman, **Angeles Salles**, Ramiro Freudenthal and Arturo Romano. NF-KB transcription factor role in consolidation and reconsolidation of persistent memories. *Frontiers in Molecular Neuroscience* 10.3389/fnmol.2015.00050. (2015)
- **Angeles Salles**, Mariano Boccia, Mariano Blake, Nicoleta Corbi, Claudio Passananti, Carlos Maria Baratti, Arturo Romano, Ramiro Freudenthal. Hippocampal dynamics of synaptic NF-kappa B during inhibitory avoidance long-term memory consolidation in mice. *Neuroscience* 10.1016/j.neuroscience.2015.01.063. (2015)
- **Angeles Salles**, Arturo Romano, Ramiro Freudenthal. Synaptic NF-kappa B pathway in neuronal plasticity. *Journal of Physiology Paris* 10.1016/j.jphysparis.2014.05.002. (2014)
- Mercedes Ferrando, Geraldine Gueron, Belen Elguero, Jimena Giudice, **Angeles Salles**, Federico Coluccio-Leskow, Eli Jares-Erijman, Lucas Colombo, Roberto Meiss, Nora Navone, Adriana De Siervi, Elba Vazquez. Heme oxygenase 1 (HO-1) inhibits angiogenesis in prostate cancer through a mechanism partially mediated by NF-kappa B. *Angiogenesis* 10.1007/s10456-011-9230-4. (2011)

Scientific Papers submitted or in preparation

- Kathryn Allen*, **Angeles Salles***, Sangwook Park, Mounya Elhilali, Cynthia F. Moss. Effect of clutter on the neural representation of acoustic objects in the bat midbrain. *In preparation*
- Sangwook Park, **Angeles Salles**, Kathryn Allen, Cynthia F. Moss, and Mounya Elhilali. Natural statistics as inference principles of auditory tuning in biological and artificial midbrain networks. *Submitted, Oct 2020*

Book chapters

- **Angeles Salles** & Kirsten Bohn. "Microchiroptera communication" in Encyclopedia of Animal Cognition and Behavior **2019**. Elsevier. Edited by Jennifer Vonk and Todd K. Shackelford.

Peer Review

I have served as a reviewer for the journals **Scientific Reports**, **Journal of Physiology**, **PLOS ONE** and **Journal of the Acoustical Society of America**.

Meetings and Conferences

Talks (last year)

- **Awardee speaker** at the International Society for Neuroethology Young Investigator Award Symposium (Online Seminars, November 10th). Title: Echolocating bats accumulate information from acoustic snapshots to predict auditory object motion.
- **Invited speaker** at Waisman Center at UW-Madison Seminar series. (Online, November 6th, 2020) Title: Bats as model animals for auditory neuroscience.
- **Invited speaker** at Universidad del Rosario, Bogotá (Online Research Seminars, November 30th, 2020). Title: Bats and Neuroscience.
- **Invited speaker** at NeuroMates (Argentine Scientists Online Seminars, July 17th, 2020). Title: How do echolocating bats process acoustic information to forage and communicate.
- **Oral presentation** at the 2020 Virtual Animal Behavior Society Conference (Online, July 28-31, 2020). Title: Echolocating bats (*Eptesicus fuscus*) can predict auditory target motion.
- **Panelist** at BRAIN Initiative Investigators Virtual Meeting: Expanding Species Diversity in Neuroscience Research (Online, June 1st, 2020). Title: Brains, Bats and Behavior.
- **Speaker** at Johns Hopkins Sensorimotor Research Day (Baltimore, USA. January 13th, 2020). Title: Predicting the future: echolocating bats and the evolutionary arms-race of prey tracking.

Posters (last three years)

- 2020 - BRAIN initiative (online meeting June 1-2.). Title: 3D auditory object coding in echolocating bats. Kathryn Allen, **Angeles Salles**, Sangwook Park, Mounya Elhilali, Cynthia Moss.
 - 2019 - Society for Neuroscience Annual Meeting (Chicago, USA, Oct 19-23). Title: Prediction strategies for target tracking in the echolocating bat, *Eptesicus fuscus*. **Angeles Salles**, Clarice Diebold, Cynthia F. Moss.
 - 2019 - Society for Neuroscience Annual Meeting (Chicago, USA, Oct 19-23). Title: Evidence of in-flight head stabilization behavior in the Egyptian fruit bat: Association with wingbeat cycle and vocal emissions. Jackson Rossborough, Laura Stidsholt, **Angeles Salles**, Peter Madsen, Cindy Moss, and Larry Hoffman
 - 2018 - Society for Neuroscience Annual Meeting (San Diego, USA, Nov 2-7) Title: Neural discrimination of communication and echolocation calls in the big brown bat (*Eptesicus fuscus*) (Authors: **Angeles Salles**, Silvio Macias, Harshavardhan Sundar, Mounya Elhilali, Cynthia Moss).
 - 2018 - International Congress of Neuroethology (Brisbane, Australia. July 15th - July 20th) Title: Communication calls elicit selective neural responses in the inferior colliculus of the big brown bat (*Eptesicus fuscus*) (Authors: **Angeles Salles**, Silvio Macias, Harshavardhan Sundar, Mounya Elhilali, Cynthia Moss).
 - 2018 - SOAR9 (Seattle, USA. May 2nd - May 4th) Title: Auditory processing of natural stimuli (Authors: **Angeles Salles**, Silvio Macias, Harshavardhan Sundar, Mounya Elhilali, Cynthia Moss).
 - 2018 - Brain Initiative Investigators Meeting (Bethesda, MD, USA, April 9-11). Title: Representations of 3D auditory scenes (Authors: **Angeles Salles**, Melville Wohlgemuth, Ninad Kothari, Harsha Sundar, Jung-Hee Seo, Jinghong Luo, Susanne Sterbing, Mounya Elhilali, Rajat Mittal, Cynthia Moss).
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TEACHING EXPERIENCE

Education in Teaching

Certificate of completion — Johns Hopkins Teaching Academy: Pedagogy and evidence-based teaching practices. (2018-2019).

Teaching at University Level

- **Instructor at Johns Hopkins University** undergraduate higher level, three-credit course (designed and taught in full) “Choosing the ‘Champion’ animal for neuroscience research” supported by the Dean’s postdoctoral teaching fellowship. (08/2018 - 12/2018).
- **Co-instructor** at Summer (*online*) workshop “Comparative Neural Systems and Behavior Research Discussions” for **Johns Hopkins University** undergraduate students (July 2020)
- **Teaching assistant at the University of Buenos Aires** chosen by CV and oral presentation in the department of Physiology and Molecular and Cellular Biology. (08/2015 - 03/2017). Courses taught: Neurobiology of Learning and Memory and Introduction to Molecular Physiology.
- **Teaching assistant at the University of Buenos Aires** chosen by CV and oral presentation in the department of Biochemistry. (08/2011 - 07/2012). Courses taught: Electrophoresis, Biochemistry.

Teaching at other levels

- Science teacher at Northlands School, Argentina. (04/2006 – 12/2007). Independently instructed 3 sections per year, on Physics, Chemistry and Biology.

Mentorship of Students

At Johns Hopkins University

- Alma Hausker. September 2020 to date. (Research assistant)
- Shirley Marino Lee. January 2020 to date. (Research assistant)
- Samantha Dominguez. October 2017 to December 2019. (Summer Training and Research (STAR) award).
- Bruce Nguyen. January 2018 - August 2019. (STAR award & David S. Olton Research award)

- Alexa Earls. March 2018 to May 2019. (Honors project student)
- Cameron Chenault. May 2018 - January 2019. (Woodrow Wilson research scholarship)
- Ikechukwu Enenmoh. August 2017 - June 2018. (Honors project student)
- Jacob Hamidi. August 2017 - December 2017. (Research assistant)
- Eileen Ramirez. August 2017 - December 2017. (Research assistant)
- Natasha Navejar. June 2017 - August 2017. (Basic Science Institute summer research scholarship)
- Wendy Xie. June 2017 - August 2017. (Summer Training and Research (STAR) award)

At University of Buenos Aires

- Laura Esquivel. 2016 - 2017. (M.Sc equivalent Thesis “Protein acetylation and synaptic composition during Inhibitory Avoidance Long-Term memory consolidation in mouse hippocampus”).
- María Julia Busso. 2014 - 2016 - (M.Sc equivalent Thesis “Synaptic composition and protein acetylation change during inhibitory avoidance consolidation in mice”).

Outreach projects and events

- *June 2020 - to date.* Part of the Johns Hopkins Psychological and Brain Sciences Department **Diversity Initiative** (PBS Action) Hiring and recruiting work group whose aim is to increase the representation of minorities at every level within the department.
- *November 16th, 2018* - Guided lab tour and talk “Studying Echolocating Bats” for Baltimore middle school students within the project “Rethink Education”.
- *March 30th, 2018* - Guided lab tour and talk “Studying Echolocating Bats” for Baltimore middle school students within the project “Rethink Education”.
- *June to October 2013* - Participation in Didactic Experiences (UBA). High school students develop research activities. Argentina.
- *August 2013* - Participation in Biology Week (UBA) Behavior, Learning and Memory. Argentina.
- *August 2012* - Participation in Biology Week (UBA) Behavior, Learning and Memory. Argentina.
- *October 2010* - Participation in Chemistry Week (UBA) Department of Biochemistry. Argentina.
- *September 2010* - Participation in ExpoUBA, with the Laboratory of Ecology. Argentina.
- *August 2010* - Participation in Biology Week (UBA), Physiology and Molecular Biology. Argentina.
- *November 2009* - Participation in the exposition “Detectives of nature”, during the night of museums of the city of Buenos Aires, (UBA). Argentina.
- *August 2009* - Participation in Biology Week (UBA), Physiology and Molecular Biology. Argentina.

Languages

Bilingual Spanish-English