

Curriculum Vitae

Personal Details

Surname: Sanguinetti Scheck
Names: Juan Ignacio
Nationality: Uruguayan
Birth date: 30th October 1984
Birth place: Montevideo, Uruguay
Address: Falckensteinstrasse 36, Berlin, Germany bei Austin
Phone number: +49 151 2130 2997

Brief Summary

- Bachelor in Biochemistry
- Masters in Biology (Neuroethology) working on electrolocation
- Completed PhD in Neurobiology of spatial navigation and play in rats.
- Teaching assistant at the prestigious Transylvanian Experimental Neuroscience Summer School since 2016.
- Tenured Research Assistant (non PI) in the Faculty of Science, Uruguay
- Actor, singer and fly fishing and grilling enthusiast.

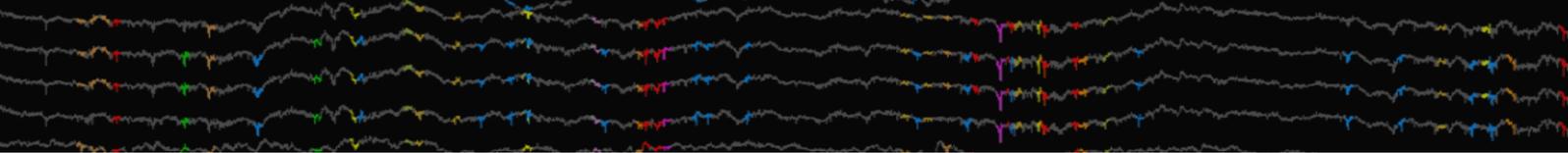
Academic Degrees

- 2004-2009

Bachelors Degree in Biochemistry (Licenciatura en Bioquímica)
Facultad de Ciencias (Faculty of Sciences),
Universidad de la Republica, Montevideo, Uruguay.
General Grade Average: 9.53/12 (non linear scale, 3=50%)

- 2010-2012

Masters Degree in Biology (Discipline: Neurosciences)
PEDECIBA, Uruguay.
Thesis title: "Active electroreception: image formation, sensory cues and sensorimotor schemes."
Directed by: Dr. Leonel Gómez-Sena
Defended on the 26th November 2012, approved with Mention of the jury, composed by Dr. Omar Macadar (IIBCE), Dr. Kirsty Grant (CNRS) and Dr. Eduardo Mizraji (Udelar).
General Average: 11/12 (same scale)



Current Studies

- 2014- 2019

Dr. rer. nat.

Humboldt University of Berlin.

Under the supervision of Prof. Dr. Michael Brecht.

Title: “Neural basis of navigation in foraging and play”

Defense date: April 11th 2019

Diploma still pending for University Library approval.

Working Experience

- 2006-2009

El País Digital - Diario EL PAIS – EL PAIS S.A.

Job description: Content generation and administration of web backend at newspaper EL PAIS. Producing digital content for elpais.com.uy

Experience in: Video recording and editing using Adobe Premiere, Photoshop, Adobe Flash, blog admin.

- 2009-2013

Student Assistant: Grado 1 Sección Biomatemáticas, Instituto de Biología, Facultad de Ciencias.

- 2013

Research Assistant: Grado 2, Technical informatics assistant at Centro de Investigacion Basica en Psicología (Cibpsi, Facultad de Psicología, UdelaR).

<http://www.consejo.psico.edu.uy/Distribuidos/371-13.pdf>

- 2013-present

Research Assistant, Faculty of Life Sciences, Humboldt University of Berlin.

Positions

- 2017-present

Tenured Research Assistant via competition, Level 2, Laboratory of Neuroscience, Faculty of Sciences, Universidad de la Republica, Uruguay. (Under unpaid leave of absence)

- 2017-present

Researcher (Candidate Level) – National Researcher System (SNI), ANII, Uruguay

Publications

First Author papers

Published:

Sanguinetti-Scheck, Pedraja, Cilleruelo, Migliaro, Aguilera, Caputi, Budelli. *Fish geometry and electric organ discharge determine functional organization of the electrosensory epithelium*. 2011, Plos One, 001 10.1371/journal.pone.0027470

Tang*, Burgalossi*, Ebbesen*, **Sanguinetti-Scheck***, Schmidt, Tukker, Naumann, Ray, Preston-Ferrer, Schmitz, Brecht: *Functional Architecture of the Rat Parasubiculum*, The Journal of Neuroscience, 2016, 36(7):2289 –2301

* Authors contributed equally to this work

Unpublished:

Sanguinetti-Scheck and Brecht. Home. Head Direction Stability and Grid cell Distortion. Biorxiv. doi: <https://doi.org/10.1101/602771>

Reinhold*, **Sanguinetti-Scheck***, Hartmann* and Brecht. Behavioral and neural correlates of Hide & Seek in rats. (*In 2nd revision*). *Science*

* Authors contributed equally to this work

Senior Author papers:

In Prep:

Concha-Miranda, Hartmann, Reinhold, Brecht and **Sanguinetti-Scheck**. Play but not observing play engages rat medial prefrontal cortex. (In Prep)

Co-Author papers

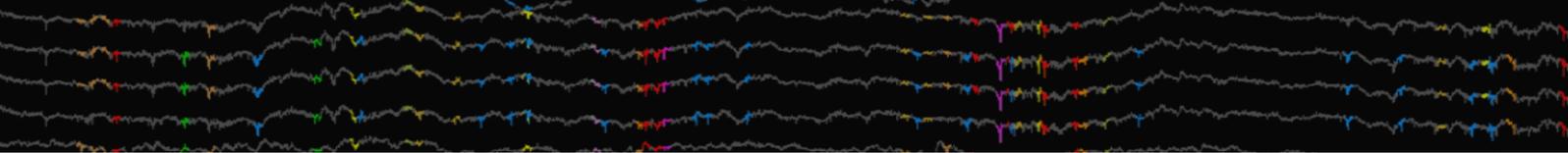
Hofmann, **Sanguinetti-Scheck**, Gómez-Sena, Engelmann. *From static electric images to image flow: towards dynamic perceptual cues in active electrolocation*. Submitted to the Journal of Physiology -Paris . J Physiol Paris. 2012 Jul 7. [Epub ahead of print]

Behr, Holtkamp, Neusel, **Sanguinetti-Scheck**, Budelli, von der Emde. *Mind the gap: the minimal detectable separation distance between two objects during active electrolocation*. J Fish Biol. 2012 Dec;81(7):2255-76. doi: 10.1111/j.1095-8649.2012.03438.x. Epub 2012 Sep 11.

V. Hofmann, **J. Sanguinetti-Scheck**, S. Künzel, B. Geurten, L. Gómez-Sena, J. Engelmann: *Sensory flow shaped by active sensing: sensorimotor strategies in electric fish*. J Exp Biol. 2013 Jul 1;216(Pt 13):2487-500. doi: 10.1242/jeb.082420. Review..

Hofmann V, Geurten BR, **Sanguinetti-Scheck JI**, Gómez-Sena L, Engelmann J. *Motor patterns during active electrosensory acquisition*. Front Behav Neurosci. 2014 May 28;8:186. doi: 10.3389/fnbeh.2014.00186. eCollection 2014.

Gómez-Sena L, Pedraja F*, **Sanguinetti-Scheck JI***, Budelli R: *Computational modeling of electric imaging in weakly electric fish: insights for physiology, behavior and evolution*. J Physiol Paris. 2014 doi: 10.1016/j.jphysparis.2014.08.009.



Review.

* Authors contributed equally to this work

Tang, Ebbesen, **Sanguinetti-Scheck**, Preston-Ferrer, Gundlfinger, Winterer, Beed, Ray, Naumann, Schmitz, Brecht, and Buralgossi: *Anatomical organization and spatiotemporal firing patterns of layer 3 neurons in the rat medial entorhinal cortex*. The Journal of Neuroscience , 2015, 35(36):12346 –12354

V Hofmann, **J. I. Sanguinetti-Scheck**, J. Engelmann, L. Gómez-Sena, *Sensory flow as a basis for a novel distance cue in freely behaving electric fish*. The Journal of Neuroscience. 2016, 1361-16

Talks

2012:

Towards dynamic perceptual cues in active electroreception: modeling of electric image flow based on sensory related behavior.

ICN 2012 Satellite: International Workshop in Robotic Electrosense. College Park, Maryland. **Oral presentation.**

Busqueda de claves dinámicas en electrorecepción activa: modelando el flujo sensorial eléctrico del comportamiento de libre inspección de objetos . Congreso de la Sociedad Argentina de Biología, 2012, Buenos Aires. **Oral Presentation.**

2019:

Neural bases of Navigation in Foraging and Play.
University of California- Berkeley.
Postdoctoral Seminar.

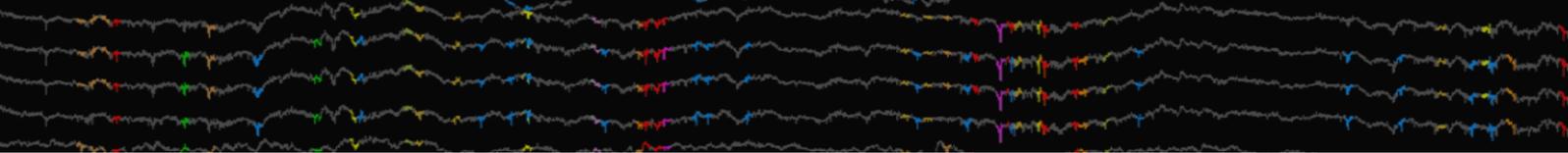
Neural bases of Navigation in Foraging and Play.
Weizmann Institute of Science. Rehovot, Israel.
Feinberg Graduate School Funded Visit Scholarship

Rats play Hide and Seek: neural bases of playing and observing.
Bielefeld University, Bielefeld, Germany.
Invited Seminar.

Abstract Highlights

Juan I. Sanguinetti-Scheck, V. Hofmann, J. Engelmann, L. Gómez-Sena Active electrolocation in *Gnathonemus petersii*: modelling electric flow based on sensory related behavior. International Fellows Poster Session. Neuroscience Meeting 2011. Washington, D.C.

Juan I. Sanguinetti-Scheck; Federico Pedraja; Esteban Cilleruelo; Adriana Migliaro; Pedro Aguilera; Angel Caputi; Ruben Budelli. Fish geometry and electric organ discharge determine differential functions of the electrosensory epithelium , Neuroscience 2011 , Washington DC , 2011



Juan I. Sanguinetti-Scheck, V. Hofmann, J. Engelmann, L. Gómez-Sena. Towards dynamic perceptual cues in active electroreception: modeling of electric image flow based on sensory related behavior. ICN 2012: International Congress of Neuroethology, College Park, Maryland, USA.

Juan I. Sanguinetti-Scheck, V. Hofmann, B. Geurten, J. Engelmann, L. Gómez-Sena. Búsqueda de claves dinámicas en electrorecepción activa: modelando el flujo sensorial eléctrico del comportamiento de libre inspección de objetos . Congreso de la Sociedad Uruguaya de Biociencias, 2012. Hotel Argentino, Piriápolis. **(Best poster award)**

Juan I. Sanguinetti-Scheck and Michael Brecht. Effect of Home Location on Parasubicular Grid Cells , Neuroscience 2017 , Washington DC , 2017

Juan I. Sanguinetti-Scheck and Michael Brecht. Effect of Home Location on Parasubicular Grid Cells, Grid Cell Meeting 2018 , London SWC , 2018

Honors and Awards

- 2009-2013

Research assistantship G1 in Department of Biomathematics (Facultad de Ciencias) to work on the CSIC project “Electrolocation and perception of simple objects by weakly electric fish” under Dr. Ruben Budelli as a part of the Angels Project. The ANGELS project (ANGuilliform robot with ELeCtric Sense) in a research and development project of the European Union (www.angelsproject.org)

- 2010

Received a grant by CSIC (Sectorial Commission for Science Research) for a research internship at the Active Sensing Lab., University of Bielefeld, Germany. Trained in electrophysiology and behavioural neuroscience under Prof. Jun. Jacob Engelmann.

- 2010

Received a personal Grant by the University of Bielefeld for “Modelling of electric images and programming of a tool to apply to behavioural data”.

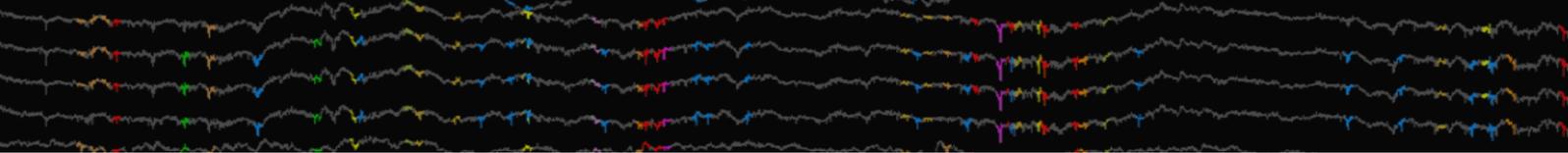
- 2010

Funded as collaborator on a grant titled “Fondo Clemente Estable” (Basic Science Fund) by the ANII (National Academy for Research and Innovation) for the project “Mecanismos de facilitación en la percepción del movimiento. Estudio psicofísico y electroencefalográfico” (Mechanisms of motion perception facilitation. Psychophysical and electroencephalographical study)

- 2011

Awarded a National Scholarship by the ANII (National Association of Research and Innovation) to complete his Masters Degree in Biology.

- 2011



Received the “Hugo Arrechiga Fellowship” of the Society for Neuroscience to attend the annual meeting of the SfN, Neuroscience 2011 along with a two year membership to the Society for Neuroscience.

- 2012

Was awarded with best school project at the Latinamerican School of Computational Neurosciences (LASCON 2012).

- 2012

Received “Best Poster Award” at the National Congress of Biosciences, SUB, Piriapolis, 2012. (Total number of posters participating 350).

- 2013

Received PhD in a Foreign Country Scholarship by ANII, **RESIGNED THE SCHOLARSHIP.**

- 2013

Accepted to the Frontiers du Vivant PhD program, **RESIGNED THE INVITATION**

- 2019

Feinberg Graduate School Funded Visit Scholarship (Weizmann Institute of Science)

Independent courses and research stays

- 2009

XIV Latinamerican School of Neuroscience in Montevideo (Only Lectures)

- 2010

Research stay at Active Sensing Lab, Bielefeld University under Dr. Jacob Engelmann (3 months)

- 2011

Attended the 2011 *Ricardo Miledi Neuroscience Training Program* as a Full student. Received 10/12 in the Uruguayan scale (non linear scale, 3=50%, 10, 11, 12 are seldomly awarded) (Funded by IBRO, SfN, Grass Foundation)

- 2012

4th Latinamerican School in Computational Neuroscience (LASCON), in Ribeirao Preto Brazil. Received 9.2/10 and award for best project. (Funded by IBRO, USP, FAPESP)

- 2012

Research stay at UNIC, CNS, Gif-sur-yvette, under Dr. Kirsty Grant (1 month)

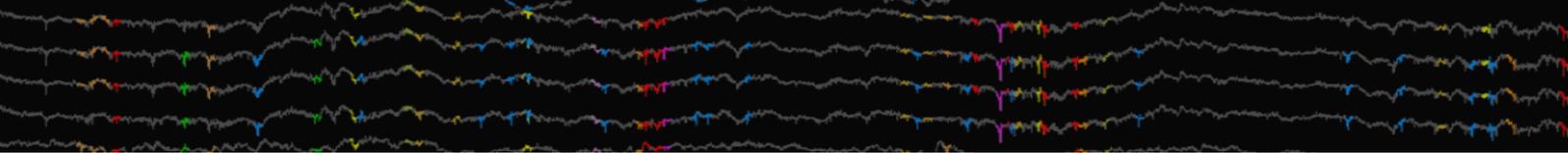
- 2012

International Course: “Early Sensorimotor integration: from the cellular to the systems level “ (Funded by ISN (International Society Neurochemistry), PEDECIBA, AMSUD)

- 2013

FELASA B course for animal experimentation, Berlin.

- 2015



Transylvanian Experimental Neuroscience Summer School (TENSS: tenss.ro)

- 2016

One week stay at the Kampff Lab, Sainsbury Wellcome Center, UCL, London.
Learning new behavioral technologies.

Technical Skills

- Brief training in Intracellular electrophysiology (Ricardo Miledi Neuroscience Training Program, Led by Dr. Lidia Szczupak and Dr. William Kristan).
- Patch clamp in slices under Dr. Raul Russo (IIBCE, Uruguay)
- Extracellular electrophysiology in fish at Bielefeld University, led by Dr. Jacob Engelmann.
- Juxtacellular recordings in vivo, in anesthetized, awake head-fixed or freely moving rats. (Brecht Lab)
- Juxtacellular labelling of single neurons in vivo using Neurobiotin or Biocytin.
- Freely moving extracellular tetrode recordings in rats. (Brecht Lab)
- Wireless extracellular recordings (Brecht Lab).
- Optogenetics using cre lines (TENSS).
- Intrinsic Imaging and wide field fluorescence in vivo (TENSS).
- Anatomical tracings, using CholerotoxinB, BDA, AAV virus. (Brecht Lab)
- Histology, traditional and tangential slicing. Immunohistology(Brecht lab)
- Design of psychophysical experimental paradigms (Uruguay).
- Behavioral paradigm design for close loop experiments (Bonsai, Arduino)
- Data acquisition and analysis.
- MATLAB programming, basic python programming, ReactiveX.
- Neuronal modeling (Latinamerican School of Computational Neuroscience 2012)

Teaching

- 2010

Teaching assistant in practical sessions of the course Neurociencias I, Fcien, UdelaR, Montevideo.

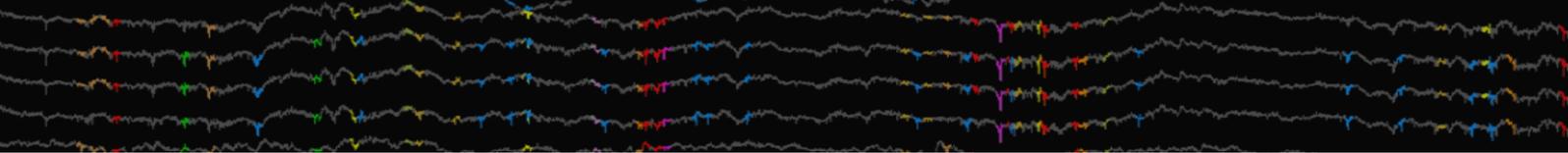
- 2011

Assistant in MATLAB programming course, Fcien, UdelaR, Montevideo.

- 2012

Assistant in Mathematics for Cognitive Sciences course, NICC, UdelaR.

- 2013-present



Assistant in Animal Physiology course for Bachelor in Biology, Humboldt University, Berlin.

- 2013-present

Assistant in “Acquisition and Analysis of Neural Signals” course for the Masters in Computational Neuroscience, Bernstein Center for Computational Neuroscience, Berlin.

- 2016

Organizer and teacher of “London 2016 Bonsai Workshop” , Sainsbury Wellcome Center, University College London, London.

- 2016-present

Teaching Assistant at the 2016 Transylvanian Experimental Neuroscience Summer School.

Topics taught: Basic Microscopy, Fluorescence Microscopy, 2-Photon in vivo Microscopy, Open source behavior, open source extracellular recordings, optogenetics.

- 2017

Co-Organizer and Teacher of “Introduction to Bonsai” workshop in the Aspects of Neuroscience Conference, Warsaw, Poland. <http://neuroaspects.org/introduction-to-bonsai>

- 2018

Organizer and Teacher of “Introduction to Bonsai” workshop in the Aspects of Neuroscience Conference, Warsaw, Poland. <http://neuroaspects.org/introduction-to-bonsai>

Scientific Organization

- 2011 – 2013

Co-Organizer of the Brain Awareness Week- Uruguay

- 2016

Organizer of the Bernstein Conference PhD Symposium.

Outreach

- 2010 – 2013

Brain Awareness Week- Uruguay

- 2013

Contribution to Conciencia3, museum exposition by CIENCIA VIVA, Interactive Exposition on visual perception of moving objects.

- 2014

Outreach regarding 2014 Nobel prize in Medicine.

http://www.180.com.uy/articulo/51794_Del-alzheimer-a-la-robotica-los-impactos-del-GPS-cerebral

- 2014-2016

Collaborator in out-reach videos Brecht Lab.

<https://www.youtube.com/watch?v=6gBi9DwXL9M>

- 2018

Radio Interview about Grid Cells for Oceano FM Uruguay.

<https://oceano.uy/justiciainfinita/que-estudian-los-que-estudian/12537-el-gps-cerebral>

- 2018

Radio Interview for Sobreciencia, Radio Oriental, Uruguay.

<https://www.sobreciencia.uy/investigador-uruguayo-estudia-en-alemania-la-percepcion-de-la-espacialidad-de-los-mamiferos/>

Languages

Spanish (mother tongue)

English (1990- 2007) International Baccalaureate, English as a First Language exams)

German (A1.2)

Extra-academic

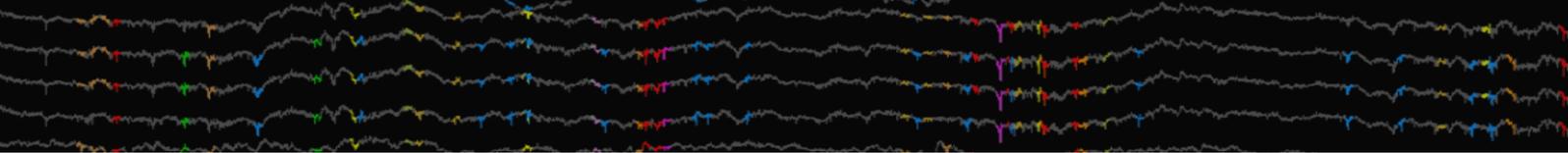
Acting

- 2005-2008
Acting School
- 2003-present
Acting: Improv, Clown, Musical Comedy, and Shakespeare.
- 2013-2016
Improv Theater.
- 2015-2018
Actor at ComedySportz, international improv company.

Writer

- 2015-2019
Sketch writer for The Weird Show (Berlin)

Sports



American Football (2007-2013)

Team captain American Football Team “Emperors” (2009-2013)

National Uruguayan American Football team (2009-2013)

Amateur Fly Fishing.