

**CURRICULUM VITAE**  
**Lucas Albrechet-Souza**

August 2018

**Current Title:** Postdoctoral Fellow  
**Business Address:** 1901 Perdido Street, Rm 7242, New Orleans, LA 70112  
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**Citizenship:** Brazilian

**Education:**

2000-2004      **BS, Biology**  
University of Sao Paulo, Brazil  
Honors thesis: *One-trial tolerance to midazolam and antinociception in rats submitted to the elevated plus-maze test*  
Advisor: Marcus L. Brandao

2000-2005      **BS, Biology Education**  
University of Sao Paulo, Brazil

2004-2006      **MA, Psychobiology**  
Department of Psychology, University of Sao Paulo, Brazil  
Thesis: *Serotonergic modulation of exploratory behavior in rats submitted to test and retest in the elevated plus-maze*  
Advisor: Marcus L. Brandao

2006-2010      **PhD, Psychobiology**  
Department of Psychology, University of Sao Paulo, Brazil  
Dissertation: *Hormonal, cognitive and neuroanatomical factors associated with the exploratory behavior of rats submitted to test and retest in the elevated plus maze*  
Advisor: Marcus L. Brandao

2011-2012      **Postdoctoral Fellow**  
Department of Psychology, University of Sao Paulo, Brazil  
Research project: *Role of dopaminergic mechanisms located in the nucleus accumbens on the expression of conditioned fear in rats*  
Advisor: Marcus L. Brandao

2013-2015      **Postdoctoral Fellow**  
Department of Psychology, Tufts University, Boston-MA

Research project: *Evaluation of ventral tegmental area CRF mechanisms in stress-induced motor sensitization and escalation of cocaine consumption in rats and alcohol consumption in mice*  
Advisor: Klaus A. Miczek

2018-Present **Postdoctoral Fellow**  
Department of Physiology, LSUHSC, New Orleans-LA  
Research project: *The role of BLA interneurons and endocannabinoid signaling in mediating post-stress escalation of alcohol drinking in rats*  
Advisor: Nicholas W. Gilpin

### **Academic, Professional, and Research Appointments:**

2015-2018 **Young Investigator**  
Department of Psychology/Clinical Hospital of Porto Alegre, Federal University of Rio Grande do Sul, Brazil  
Research project: *Social defeat stress, CRF receptors type 1 and 2, defensive strategies and alcohol consumption in male mice*

### **Membership in Professional Organizations:**

2003-Present *Member*, Brazilian Society of Physiology (SBFis)  
2007-Present *Council member*, Institute of Neuroscience and Behavior (INeC)  
2007-Present *Member*, International Behavioral Neuroscience Society (IBNS)  
2007-Present *Member*, Society for Neuroscience (SfN)  
2015-Present *Member*, National Association for Research and Graduate Studies in Psychology (ANPEPP)

### **Awards and Honors:**

2002 **Undergraduate Research Fellowship**, Sao Paulo Research Foundation (FAPESP), Brazil  
2003 **Best Undergraduate Research Award**, University of Sao Paulo, Brazil  
2004 **Master's Fellowship**, Coordination for the Improvement of Higher Education Personnel (CAPES), Brazil  
2006 **Doctoral Fellowship**, National Council for Scientific and Technological Development (CNPq), Brazil

- 2010            **Latin America Postdoctoral Fellowship**, National Scientific and Technical Research Council (CONICET), Argentina
- 2011            **Postdoctoral Fellowship**, National Council for Scientific and Technological Development (CNPq), Brazil
- 2012            **Travel Award** from Coordination for the Improvement of Higher Education Personnel (CAPES), Brazil, to participate in the Forum of Neuroscience in Barcelona-Spain
- 2012            **Overseas Postdoctoral Fellowship**, Coordination for the Improvement of Higher Education Personnel (CAPES), Brazil
- 2013            **Overseas Postdoctoral Fellowship**, Science without Borders, Brazil
- 2015            **Young Investigator Grant**, Science without Borders, Brazil
- 2018            **Career Development Travel Award** from College of Science and Mathematics-Fresno State to attend the workshop 'Finding Balance and Bounty at a Comprehensive University' in Fresno-CA

## **TEACHING EXPERIENCE AND RESPONSIBILITIES**

### **Lecturer experience:**

- 2006-2007        *An introduction to pain pathways and mechanisms.* University of Sao Paulo, Brazil (graduate-level class)
- 2007-2008        *Cognitive foundations: Thought.* University of Sao Paulo, Brazil (graduate-level class)
- 2007-2009        *GABAergic modulation of conditioned and unconditioned fear.* University of Sao Paulo, Brazil (undergraduate-level class)
- 2009              *Pain: types, mechanisms and treatment.* University of Sao Paulo, Brazil (graduate-level class)
- 2009              *The neurobiology of defensive behavior.* University of Sao Paulo, Brazil (undergraduate-level class)
- 2011              *The role of the hypothalamic–pituitary–adrenal axis in the modulation of defensive responses.* University of Sao Paulo, Brazil (graduate-level class)
- 2011              *Motivational perspectives on chronic pain.* University of Sao Paulo, Brazil (graduate-level class)

- 2012 *Topics in cognitive psychology: Thinking.* University of Sao Paulo, Brazil (graduate-level class)
- 2013 *Ultrasonic vocalizations in rodents.* Tufts University, Boston-MA (undergraduate-level class)
- 2014 *Alcohol consumption in mice: the drinking-in-the-dark model.* Tufts University, Boston-MA (undergraduate-level class)
- 2015 *Social stress and drug intake in rodents.* Federal University of Rio Grande do Sul, Brazil (graduate-level class)
- 2015/2017 *Functional connectivity of periaqueductal grey matter and ventral tegmental area.* Federal University of Rio Grande do Sul, Brazil (graduate-level class)
- 2016 *The role of corticotropin-releasing factor in stress-induced escalation of alcohol and cocaine intake.* Federal University of Rio Grande do Sul, Brazil (graduate-level class)
- 2017 *The neurobiology of addiction.* Federal University of Rio Grande do Sul, Brazil (graduate-level class)
- 2017 *Corticotropin releasing factor mechanisms in the bed nucleus of the stria terminalis modulate voluntary alcohol consumption in C57BL/6 mice with a history of brief social defeat stress.* Federal University of Rio Grande do Sul, Brazil (graduate-level class)
- 2017 *Social stress and alcohol intake in mice.* Federal University of Rio Grande do Sul, Brazil (graduate-level class)

**Teaching assistant experience:**

- 2001 *Introduction to molecular and cellular biology.* University of Sao Paulo, Brazil (for non-majors)  
Period: 02/2001 – 07/2001
- 2005-2010 *How to prepare rat tissue for microscopic analysis.* University of Sao Paulo, Brazil (for non-majors)
- 2006 *Anatomy and Physiology I.* University of Sao Paulo, Brazil (for non-majors)  
Period: 02/2006 – 07/2006
- 2016 *Basic psychological process.* Federal University of Rio Grande do Sul, Brazil (for non-majors)  
Period: 02/2016 – 07/2016

## **Undergraduate and Graduate Students Trained:**

- 2007            Camila Nascimento Reis (**Honor thesis advisor**)  
*Neurobiological mechanisms in panic disorder: an overview.* Claretian University Centre, Brazil
- 2017            Caroline Rossi Canani (**Research advisor**)  
*Evaluation of the effects of repeated social defeat stress on anxiety, depression and alcohol consumption in male mice.* Federal University of Rio Grande do Sul, Brazil
- 2018            Mailton Vasconcelos (**Dissertation co-advisor**)  
*Intermittent social defeat stress in male Wistar rats: review and experimental corticotropin-releasing factor system manipulations.* Federal University of Rio Grande do Sul, Brazil

## **Thesis and Dissertation Committees:**

- 2015            Thiago W. Viola (**PhD Qualifying Exam**)  
*Epigenetic mechanisms involved in risk assessment behavior: effects of exposure to early life stress.* Pontifical Catholic University of Rio Grande do Sul, Brazil
- 2016            Adriana C. P. dos Santos (**Dissertation**)  
*Role of raphe median nucleus serotonergic and noradrenergic systems in the development of chronic stress tolerance.* University of Sao Paulo, Brazil
- 2017            Douglas M. da Silva (**Thesis**)  
*Conditioned place induced by ethanol in rats: methodological review and experimental study.* Federal University of Rio Grande do Sul, Brazil
- 2017            Dirson J. Stein (**PhD Qualifying Exam**)  
*Chronic social defeat stress in male Wistar rats: coping strategies, neurogenesis, neural activity and inflammatory markers.* Federal University of Rio Grande do Sul, Brazil
- 2017            Marina M. S. Scafuto (**Thesis**)  
*Effects of hormonal therapy on aggressive behavior in an animal model of perimenopause.* University of Sao Paulo, Brazil
- 2018            Luis Eduardo Wearick da Silva (**Dissertation**)  
*The impact of an experimental model of impoverished environment on cognition and gait adaptability: effects on BDNF signaling and dopamine receptors D1 and D2.* Pontifical Catholic University of Rio Grande do Sul, Brazil

## **RESEARCH AND SCHOLARSHIP**

### **Grants and Contracts (funded):**

2002-2004	Sao Paulo Research Foundation (FAPESP), Brazil Title: <i>A new approach to elevated plus-maze as a model of fear and anxiety</i> . Period of support: 10/01/2002 – 06/30/2004	<b>\$3,833</b>
2004-2006	Coordination for the Improvement of Higher Education Personnel (CAPES), Brazil Title: <i>Serotonergic modulation of exploratory behavior in rats submitted to test and retest in the elevated plus-maze</i> . Period of support: 09/01/2004 – 08/31/2006	<b>\$9,609</b>
2006-2010	National Council for Scientific and Technological Development (CNPq), Brazil Title: <i>Hormonal, cognitive and neuroanatomical factors associated with the exploratory behavior of rats submitted to test and retest in the elevated plus-maze</i> . Period of support: 09/01/2006 – 08/31/2010	<b>\$33,311</b>
2011-2012	National Council for Scientific and Technological Development (CNPq), Brazil Title: <i>Role of dopaminergic mechanisms located in the nucleus accumbens on the expression of conditioned fear in rats</i> Period of support: 01/01/2011 – 12/31/2012	<b>\$29,153</b>
2013-2015	Science without Borders, Brazil Title: <i>Evaluation of ventral tegmental area CRF mechanisms in stress-induced motor sensitization and escalation of cocaine consumption in rats and alcohol consumption in mice</i> Period of support: 01/01/2013 – 03/31/2015	<b>\$61,760</b>
2015-2018	Science without Borders, Brazil Title: <i>Social defeat stress, CRF receptors type 1 and 2, defensive strategies and alcohol consumption in male mice</i> Period of support: 04/01/2015 – 01/31/2018 <i>* highly competitive grant designed to attract and stimulate the fixation of outstanding young researchers living abroad</i>	<b>\$115,922</b>

### **Journal Publications (Refereed):**

2005	<b>Albrechet-Souza L</b> , Oliveira AR, De Luca MCZ, Tomazini FM, Santos NR, Brandao ML. A comparative study with two types of elevated plus-maze (transparent vs. opaque walls) on the anxiolytic effects of midazolam, one-trial tolerance and fear-induced analgesia. <i>Progress of Neuropsychopharmacology and Biological Psychiatry</i> 29: 571-9.
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- 2005 Brandao ML, Borelli KG, Nobre MJ, Santos JM, **Albrechet-Souza L**, Oliveira AR, Martinez RC. Gabaergic regulation of the neural organization of fear in the midbrain tectum. *Neuroscience and Biobehavioral Reviews* 29: 1299-311.
- 2005 Carvalho MC, **Albrechet-Souza L**, Masson S, Brandao ML. Changes in the biogenic amine content of the prefrontal cortex, amygdala, dorsal hippocampus, and nucleus accumbens of rats submitted to single and repeated sessions of the elevated plus-maze test. *Brazilian Journal of Medical and Biological Research* 38: 1857-66.
- 2006 Tomazini FM, Reimer AE, **Albrechet-Souza L**, Brandao ML. Opposite effects of short- and long-duration isolation on ultrasonic vocalization, startle and prepulse inhibition in rats. *Journal of Neuroscience Methods* 153: 114-20.
- 2007 Macedo CE, Martinez RC, **Albrechet-Souza L**, Molina VA, Brandao ML. 5-HT<sub>2</sub> and D<sub>1</sub>-mechanisms of the basolateral nucleus of the amygdala enhance conditioned fear and impair unconditioned fear. *Behavioural Brain Research* 177: 100-8.
- 2007 **Albrechet-Souza L**, Rodrigues Franci C, Brandao ML. Increases in plasma corticosterone and stretched-attend postures in rats naive and previously exposed to the elevated plus-maze are sensitive to the anxiolytic-like effects of midazolam. *Hormones and Behavior* 52: 267-73.
- 2008 **Albrechet-Souza L**, Borelli KG, Brandao ML. Activity in the medial prefrontal cortex and amygdala underlies one-trial tolerance of rats in the elevated plus-maze. *Journal of Neuroscience Methods* 169: 109-18.
- 2009 Almada RC, Borelli KG, **Albrechet-Souza L**, Brandao ML. Serotonergic mechanisms of the median raphe nucleus-dorsal hippocampus in conditioned fear: output circuit involves the prefrontal cortex and amygdala. *Behavioural Brain Research* 203: 279-87.
- 2009 **Albrechet-Souza L**, Borelli KG, Carvalho MC, Brandao ML. The anterior cingulate cortex is a target structure for the anxiolytic-like effects of benzodiazepines assessed by repeated exposure to the elevated plus-maze and Fos immunoreactivity. *Neuroscience* 164: 387-97.
- 2010 **Albrechet-Souza L**, Brandao ML. Hormonal and cognitive factors associated with the exploratory behavior of rats submitted to repeated sessions of the elevated plus-maze. *Psychology & Neuroscience* 3: 43-52.
- 2011 **Albrechet-Souza L**, Borelli KG, Almada RC, Brandao ML. Midazolam reduces the selective activation of the rhinal cortex by contextual fear stimuli. *Behavioural Brain Research* 216: 631-8.

- 2012 Reis FMC, **Albrechet-Souza L**, Rodrigues Franci C, Brandao ML. Risk assessment behaviors associated with corticosterone trigger the defense reaction to social isolation in rats: role of the anterior cingulate cortex. *Stress (Luxembourg)* 15: 318-28.
- 2013 Almada RC, **Albrechet-Souza L**, Brandao ML. Further evidence for involvement of the dorsal hippocampus serotonergic and  $\gamma$ -aminobutyric acid (GABA)ergic pathways in the expression of contextual fear conditioning in rats. *Journal of Psychopharmacology (Oxford)* 27: 1160-8.
- 2013 Borelli KG, **Albrechet-Souza L**, Fedoce AG, Fabri DS, Resstel LB, Brandao ML. Conditioned fear is modulated by CRF mechanisms in the periaqueductal gray columns. *Hormones and Behavior* 63: 791-9.
- 2013 **Albrechet-Souza L**, Carvalho MC, Brandao ML. D1-like receptors in the nucleus accumbens shell regulate the expression of contextual fear conditioning and activity of the anterior cingulate cortex in rats. *International Journal of Neuropsychopharmacology* 16: 1045-57.
- 2014 Boyson CO, Holly EN, Shimamoto A, **Albrechet-Souza L**, Weiner LA, Debold JF, Miczek KA. Social stress and CRF-dopamine interactions in the VTA: role in long-term escalation of cocaine self-administration. *The Journal of Neuroscience* 34: 6659-67.
- 2014 Han X, **Albrechet-Souza L**, Doyle MR, Shimamoto A, DeBold JF, Miczek KA. Social stress and escalated drug self-administration in mice II. Cocaine and dopamine in the nucleus accumbens. *Psychopharmacology (Berlin)* 232: 1003-10.
- 2015 **Albrechet-Souza L**, Hwa LS, Han X, Zhang EY, DeBold JF, Miczek KA. Corticotropin releasing factor binding protein and CRF 2 receptors in the ventral tegmental area: modulation of ethanol binge drinking in C57BL/6J mice. *Alcoholism, Clinical and Experimental Research* 39: 1609-18.
- 2017 Fortes PM, **Albrechet-Souza L**, Vasconcelos M, Ascoli BM, De Almeida RMM. Social instigation and repeated aggressive confrontations in male Swiss mice: analysis of plasma corticosterone, CRF and BDNF levels in limbic brain areas. *Trends in Psychiatry and Psychotherapy* 39: 98-105.
- 2017 Stein DJ, Vasconcelos M, **Albrechet-Souza L**, Ceresér KMM, De Almeida RMM. Microglial overactivation by social defeat stress contributes to anxiety- and depressive-like behaviors. *Frontiers in Behavioral Neuroscience* 11: 207.
- 2017 **Albrechet-Souza L**, Viola TW, Grassi-Oliveira R, Miczek KA, De Almeida RMM. Corticotropin releasing factor in the bed nucleus of the stria terminalis in socially defeated and non-stressed mice with a history of chronic alcohol intake. *Frontiers in Pharmacology* 8: 762.



- 2018 Vasconcelos M, Stein DJ, **Albrechet-Souza L**, Miczek KA, De Almeida RMM. Recovery of stress-impaired social behavior by an antagonist of the CRF binding protein, CRF6-33, in the bed nucleus of the stria terminalis of male rats. *Behavioural Brain Research* 17: 30337-46.
- 2018 Newman EL, **Albrechet-Souza L**, Andrew PM, Auld JG, Burk KC, Hwa LS, Zhang EY, Debold JF, Miczek KA. Persistent escalation of alcohol consumption by mice exposed to brief episodes of social defeat stress: suppression by CRF-R1 antagonism. *Psychopharmacology (Berlin)* 235: 1808-20.

**Book Chapters:**

- 2012 **Albrechet-Souza L**, Borelli KG, Brandao ML. Involvement of the hypothalamic-pituitary-adrenal axis in threat detection behaviors. In: Cruz-Morales SE, Pedro Arriaga-Ramírez JC (Org). *Behavioral Animal Models*. Kerala: Research Signpost 89-103.

**Scientific Presentations (poster):**

***National:***

- 2007 Society for Neuroscience Meeting. San Diego, CA
- 2011 Society for Neuroscience Meeting. Washington, DC
- 2014 Society for Neuroscience Meeting. Washington, DC

***International:***

- 2003 Brazilian Physiological Society & Latin American Association of Physiological Sciences Meeting. Ribeirao Preto, *Brazil*
- 2003 International Symposium of Undergraduate Research. Ribeirao Preto, *Brazil*
- 2004 Brazilian Society for the Progress of Science Meeting. Cuiaba, *Brazil*
- 2006-2010 Psychobiology Program Meeting. Ribeirao Preto, *Brazil*
- 2006 Brazilian Federation of Experimental Biology Societies Meeting. Aguas de Lindoia, *Brazil*
- 2006 Brazilian Physiological Society & The Physiological Society Meeting. Ribeirao Preto, *Brazil*

- 2007 International Behavioral Neuroscience Society Meeting. Rio de Janeiro, *Brazil*
- 2008 Congress IBRO/LARC of Neurosciences in the Latin America, Caribbean and Iberian Peninsula. Buzios, *Brazil*
- 2008 NEWroscience 2008: Contemporary Neurosciences, Epilepsies and the Arts. Ribeirao Preto, *Brazil*
- 2009 International Behavioral Neuroscience Society Meeting. Nassau, *The Bahamas*
- 2010 International Behavioral Neuroscience Society Meeting. Sardinia, *Italy*
- 2011 Forum in Neurobiology of Stress. Araraquara, *Brazil*
- 2012 Forum of Neuroscience. Barcelona, *Spain*
- 2012 Forum in Neurobiology of Stress. Florianopolis, *Brazil*
- 2017 Brazilian Society for Neuroscience and Behavior Meeting. Araraquara, *Brazil*
- 2018 Stress Neurobiology Workshop. Banff, *Canada*

**Invited Presentations and Seminars:**

- 2012 *Animal models of fear and anxiety*. Ethology Society Meeting & Latin-American Symposium of Ethology. Ribeirao Preto, Brazil
- 2015 *CRF binding protein and CRF2 receptors in the ventral tegmental area: modulation of ethanol binge drinking in C57BL/6J mice*. Brazilian Institute of Neuropsychology and Behavior Meeting. Gramado, Brazil
- 2017 *The role of BNST CRF mechanisms in voluntary alcohol consumption in mice previously defeated in the resident-intruder paradigm*. Workshop in Reward and Stress. Sao Paulo, Brazil
- 2017 *The role of BNST CRF receptors on alcohol consumption in mice*. Brazilian Society for Neuroscience and Behavior Meeting. Araraquara, Brazil

**Scientific Journal Referee:**

Neuropharmacology  
 Psychopharmacology  
 Behavioural Brain Research

## **SERVICE ACTIVITIES**

### **University/Institutional Services:**

- 2004-2007      **International Symposium of Undergraduate Research.** Ribeirao Preto, Brazil (*poster judge*)
- 2007-2008      **Psychobiology Summer School.** University of Sao Paulo, Brazil (*organizer*)
- 2009/2012      **Psychobiology Program Meeting.** University of Sao Paulo, Brazil (*poster judge*)
- 2010-2011      **Undergraduate Forum on Psychotropic Drugs.** University of Sao Paulo, Brazil (*poster judge*)
- 2012              **Psychobiology Program & Institute of Neuroscience and Behavior Meeting.** Ribeirao Preto, Brazil (*organizer*)
- 2012/2016      **Symposium of Serotonin in Anxiety and Depression.** Ribeirao Preto, Brazil (*organizer*)

### **Community Service Activities:**

- 2008              **Dental and Medical Care Volunteer Program**  
The program '*Voluntarios do Sertao*' helps a poor region of Brazil with a variety of healthcare problems. During one week, I assisted doctors and dentists distributing medical supplies.