

## NHSN Newsletter: December 2017

Welcome Message from the Editors of *El Faro*,  
Rodolfo Flores (right) and Bryan Cruz (left).



Welcome to the 2017 Fall edition of *El Faro: La Voz de la Red*. The purpose of this online newsletter is to provide an overview of relevant current topics and research to the members of the National Hispanic Science Network (NHSN) and the Early Career Leadership Committee (ECLC).

The present issue highlights the 17<sup>th</sup> Annual National Hispanic Science Network conference that was held October 3-5th 2017 in Phoenix, Arizona.

For those who attended the conference, we hope that you had a worthwhile experience and took advantage of the opportunity to learn, network, and get inspired by epidemiological, clinical and preclinical research presentations.

In this edition, we highlight some of the many presentations that took place at this year's annual meeting. In addition, we highlight the accomplishments of current NHSN and ECLC

members, the mentoring luncheon, as well as the award winners.

We would also like to give a special thanks to this year's Conference Chairs, National Steering Committee, and Betsy Giaimo for their undivided dedication and energy to making this annual meeting a success. Thanks to: Patricia E. Molina, MD, PhD; Avelardo Valdez, PhD; Sergio Aguilar-Gaxiola, MD, PhD; Margarita Alegría, PhD; James Anthony, PhD; Carlos Bolaños-Guzman, PhD; Alice Cepeda, PhD; Felipe González-Castro, PhD; Flavio Marsiglia, PhD; María Elena Medina-Mora, PhD; Laura E. O'Dell, PhD; Yonette F. Thomas, PhD; Jennifer Reingle Gonzalez, PhD.

We would also thank Betsy Giaimo for her extraordinary service and for orchestrating a smooth annual meeting.

Also, join us in acknowledging some of the recent accomplishments of the NHSN members in our *Member Accomplishments section*. Lastly, we feature two of our new NHSN members and graduate students, Jennifer Martin and Rubi Gonzales.

We hope you find reading this edition worthwhile. We would like to thank everyone who helped to plan and contribute to this edition of *El Faro*. If you are interested in being part of a future edition of *El Faro*, please feel free to contact us.

Sincerely,

*Rodolfo & Bryan*



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## Conference Highlights



### **Marisela Morales, Ph.D.**

This year's plenary session featured Dr. Marisela Morales. Dr. Morales is currently Chief of the Neuronal Networks Section and Branch Chief of the Integrative

Neuroscience Research Branch at the NIDA Intramural Program. As an independent scientist (since 2004), she has been implementing a scientific program to address the following questions: what is the brain circuitry through which addictive drugs have their habit-forming actions, and what are the neuroadaptations in this circuitry that accompany the transition from recreational to compulsive drug-taking? She is the recipient of several prestigious awards, including: *The Presidential Early Career Award for Scientists and Engineers*, the *NIDA Director's Award of Merit* and the *NIH Director's Award*.

Dr. Morales began by sharing with us her scientific trajectory, from obtaining her Bachelor's degree in Biochemistry and Microbiology to establishing her independent research program in the NIDA intramural program. Her interest in neuroscience began when she worked as a junior independent investigator at the Institute of Experimental Biology at the Universidad de Guanajuato, Mexico. She further pursued this interest at the University of Colorado in Boulder, where her research resulted in important contributions to the field by

demonstrating the presence of actin and myosin in the brain. She then pursued a second postdoctoral position in at the Scripps Research Institute Alcohol Research Center (La Jolla, CA) in the laboratory of Dr. Floyd Bloom, where she advanced her training in drug abuse research. Eventually, she established her independent research career in the NIDA intramural research program.

In her presentation, Dr. Morales shared with us her profound interest in advancing our understanding of the molecules, cells, and neuronal pathways central to the neurobiology of drug addiction. The goal of her work is to have a better understanding of brain circuitry underlying drug abuse that would allow us to have better avenues for therapeutic interventions.

Dr. Morales commented on the major strides of science in advancing our understanding of the effects of drugs of abuse in the brain, which in many instances are not reflected at all by popular media outlets. In doing so, she reminded us about the importance of the public dissemination of science.

Also, Dr. Morales shared with us some of the important contributions that her work has made to our understanding of the neurobiology underlying addictive behaviors. Notably, her research taught us of the neuronal diversity of ventral tegmental area (VTA) neurons, such as VTA glutamatergic neurons and VTA dopaminergic neurons that also release glutamate leading to the discovery of unanticipated forms of neural transmission. In summary, Dr. Morales provided us an opportunity to appreciate the diversity and complexity of the brain, which we should consider when conducting neuroscience research.



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## Mentoring Luncheon



### **Flavio Marsiglia, Ph.D.**

This year's mentoring luncheon featured Dr. Flavio Marsiglia. He is a Regent's Professor and the Distinguished Foundation Professor of Cultural Diversity and Health at the Arizona State University School of

Social Work. He is also Director of the Southwest Interdisciplinary Research Center (SIRC), an exploratory center of excellence on minority health and health disparities funded by the National Institutes of Health.

Dr. Marsiglia was asked to talk about his academic path at this year's mentoring luncheon. In doing so, he acknowledged the people who helped him throughout his career. He referred to these people as his mentors or "angels". They are the people that play a significant role in our personal growth and success. Among his mentors, Dr. Marsiglia acknowledged, family, academic advisors, colleagues, as well as, remarkable people like Dolores Huerta. Indeed, mentors may play different roles in our lives. They may be our teachers, fiends, counselors, cheerleaders or sponsors. Regardless, they are the people that play a role in promoting our growth and success in life. Dr. Marsiglia also shared that we play an active role in finding our mentors. This process begins by simply keeping our "windows" open and allowing mentors to come into our lives.

Dr. Marsiglia also spoke about one of the most difficult experiences he had during graduate school. As a graduate student, he had the misfortune of being left behind by his graduate advisor, who left the program for another job. Interestingly, while searching for someone to

serve as chair of his dissertation committee, Dr. Marsiglia found a mentor with whom he established a great relationship with. In this story, Dr. Marsiglia reminded us that we may not always find the "angels" along our paths. Nevertheless, he also showed us how our most challenging experiences may well be the stepping stones needed to reach our biggest goals.

Dr. Marsiglia also expressed his view on how mentors should see mentees. Accordingly, one common view of mentor-mentee relationships is the "banking approach", where the mentee is viewed as empty container into which mentors deposit knowledge. Dr. Marsiglia shared that he supports rather an alternative view to the banking approach. He believes that mentees are more like a container that is filled with knowledge, ability and capacity. These attributes are the raw materials that mentors ought to capitalize on to support the development of the mentee.

Lastly, Dr. Marsiglia reminded us that as mentees, we should also be reciprocal to our mentors. Therefore, he shared important advice on how to be a good mentee. We outline these below:

- Show motivation
- Be assertive but polite
- Avoid coming across as "needy"
- Quid pro quo- reciprocal relationship
- Do your homework, meet deadlines
- Have realistic expectations
- Different people at different times
- Have a sense of humor
- Remember to say thank you



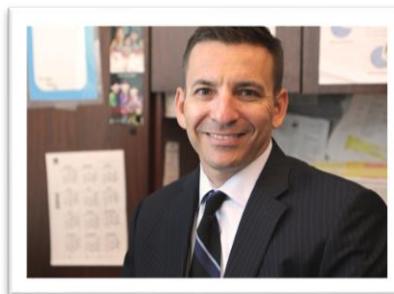
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# Promoting Diversity in the Scientific Workforce Pipeline

One of this year's special panels was centered around the idea of a pipeline, a concept developed to promote recruitment and retainment of underrepresented students in science. This special panel was chaired by Dr. Laura E. O'Dell. The discussions were given by 3 speakers who have significantly contributed to this area and shared several ideas on how to improve diversity in this meeting. Below, we highlight Dr. O'Dell's introduction to the "leaky pipeline", which describes some of the most critical obstacles that pre-doctoral trainees may face on their path to becoming independently-funded PIs. We then present the follow-up discussions given by Drs. Albert Avila, Margarita Dubocovich, and Lourdes Echegoyen.



**Albert Avila, Ph.D.**

Dr. Avila gave the first discussion on the various strategies used by early-stage

investigators that lead to NIH grant funding success. Dr. Avila mentioned successful funding, begins with placing "more fishing lines". This idea of placing "more fishing lines" is a campus wide effort to get more early-stage investigators to simply apply for funding. We can increase this concept by focusing our efforts on learning more about funding opportunities and putting away the fear of applying for funding. After applying for funding, investigators should not fear rejection. If a grant application is rejected, many investigators appear to be hesitant to re-submit grants. Interestingly, Dr. Avila's data suggested that investigators who resubmit are also the ones more likely to be funded. To this end, Dr. Avila suggested not to take rejection personally and instead revamp and resubmit grant applications. In academia, one of the key factors for retainment is funding. Many investigators "leak through the pipeline" when they encounter tough obstacles with unsuccessful grant applications. Here are some tips on obtaining funding by Dr. Avila:

*Problem: There are high numbers of pre-doctoral trainees that are lost in a "leaky pipeline" to becoming independently-funded PIs.*

1. What are the obstacles that we might address?

- Lack of role models
- Lack of mentoring opportunities
- Work life challenges
- Lack of a clear career path
- Lack of understanding politics, "cultural capital"
- Perceived lack of skills/experience
- Isolation
- Gender stereotyping

2. What are strategies to promote success at different levels of development?

3. Is there a "Hispanic Advantage?"

- Connectedness for better collaborations
- Flexibility in changing environments
- Language skills for better communication
- Cultural awareness, openness, and desire to learn
- Strong work ethic

The diagram consists of two parts. The top part shows a funnel representing a pipeline. A large number of small black dots representing pre-doctoral trainees enter from the top. As they move down, many dots fall out of the sides, representing attrition. At the bottom, a few dots remain, representing those who become independently-funded PIs. A person is shown at the top of the funnel, pouring the dots. The bottom part shows a blue pipe with a leak. A red gear is on the left, and a blue drop is falling from the pipe. A person is shown on the left, looking at the pipe.

1. Take advantage of programs
2. Apply
3. Submit and resubmit
4. Do a timeline of efforts and success
5. Integrity
6. Perseverance

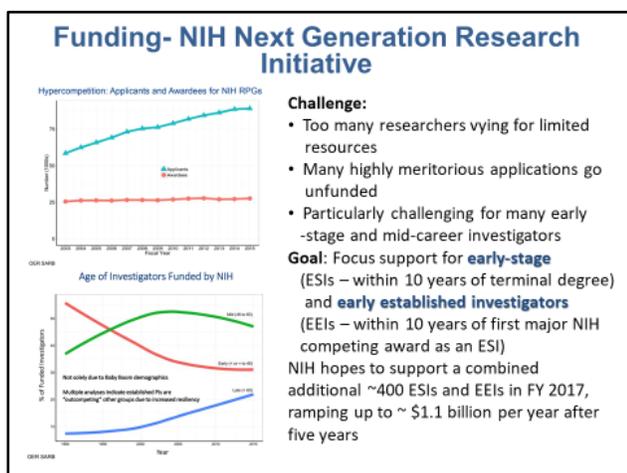


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Another obstacle towards attaining funding is the “zip code problem”. The idea of the zip code problem is that investigators in less prestigious universities seek less funding than those from prestigious universities. This problem appears to come from the belief that grant funding is given preference to higher ranked universities. This idea is a misconception! Dr. Avila ended his discussion by emphasizing that early-stage investigators should strive to serve on review panels and train reviewers on implicit bias. Below is the data he provided regarding some challenges in obtaining funding.



**Margarita Dubocovich, Ph.D.**

Dr. Dubocovich is a Distinguished Professor in the Department of Pharmacology and Toxicology at the University of Buffalo (UB), Jacobs School of Medicine and Biomedical

Sciences.

At this year’s NHSN meeting, she shared with us the current initiatives that are taking place

at UB to increase research and professional development involvement among underrepresented students. Specifically, Dr. Dubocovich has helped equipped UB with the tools necessary for the recruitment and retainment of diverse students. She has been instrumental for obtaining funding for programs, such as The Collaborative Learning and Integrated Mentoring in the Biosciences (CLIMB) at UB and the Strategic Enhancement of Educational Diversity (iSEED). She shared with us that the CLIMB program provides mentoring, career and professional development, and research opportunities. On the other hand, the iSEED program offers educational and professional development opportunities at all academic levels (i.e. students, junior scientist and faculty).

Dr. Dubocovich believes that some of the core issues that facilitate the “leaky pipeline” are the lack of exposure to research opportunities, lack of knowledge of opportunities, and lack of “authentic” mentoring. An “authentic mentor” is one who aids not just the academic development but also the professional development of mentees. She also emphasized that mentorship is most effective when mentors understand the culture and background of students, because it enables mentors to provide the tools necessary for student success in higher education. Among other things, Dr. Dubocovich also shared some worthwhile tips for managing successful training programs:

- Engage in inclusive community by having a “tight-knit” bond among students and faculty.
- Network
- Forming good mentor-mentee pairs involves evaluating the 4



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“M’s”: Mentor, Mentee, Matching, and Money

- Branding your program: Take time to promote programs that encourage underrepresented students.

Dr. Dubocovich’s take home message is that faculty should always strive to obtain funding to assist underrepresented students.



**Lourdes Echegoyen,  
Ph.D.**

Dr. Echegoyen is the Director of the Campus Office of Undergraduate Research Initiatives (COURI) at The University of Texas El

Paso. Dr. Echegoyen gave the final discussion on promoting diversity in the scientific workforce pipeline. She provided a unique model with regard to the “leaky pipeline”. Specifically, Dr. Echegoyen introduced the concept of the “watershed”. This concept suggests that as students travel down their career paths in science, those who continue in science are “precipitated” back into the watershed, and those that do not are essentially “evaporated”. Dr. Echegoyen explained how this concept applies particularly for Hispanic students. For example, students differ in characteristics, such as, social economic status, parent’s educational background, among other things and these in turn have an effect on the outcomes of students’ careers. In the end, some students are precipitated back into the watershed (retainment), and the others are evaporated (need for better recruitment) based on challenges that pull students away from academia and research. Many of the Hispanic

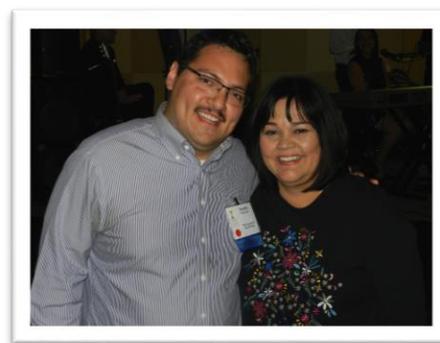
students are evaporated from the watershed due to a lack of “science socialization”, that involves learning the values and skills for a successful career in science. This particular subset of students also have high expectations from their family, which is probably due to parents not understanding the academic challenges. Dr. Echegoyen mentioned that approximately 20% of Hispanic students are “evaporated” and mentors in academia need to shift their focus on “precipitating them back” into the watershed. She provided some pointers on how to address this issue.

- Bring in parents: Inform family of academic and research experiences and how they will benefit students.
- Provide material resources.
- Network development with each other.
- Help with application materials (repository of them, edit them).

## The National Award Recipients

Each year NHSN honors those who have excelled in research, service, and presentation. We honor those who have gone above and beyond expectations, and have provide an immense impact in their respective category. We say thank you for your magnificent contributions! Congratulations

***National Award of Excellence in Research by a Student: Rodolfo Flores from UTEP.***



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***National Award of Excellence in Research by  
New Investigator: Dr. Luis Natividad from  
Scripps Research Institute.***



***National Award of Excellence in  
Mentorship: Dr. Alberto Mata from the  
University of Oklahoma.***



***National Award of Excellence for Best Poster  
by a Young Investigator: Jennifer Martin from  
the University at Buffalo.***



***Farewell Betsy! Thank you for your dedication  
to the NHSN!***



***National Award of Excellence in Research by a  
Senior Investigator: Dr. Flavio Marsiglia from  
Arizona State University.***



Betsy Giaimo has served for 9 years as Conference Coordinator for the National Hispanic Science Network. We would like to give a special recognition for her extraordinary support throughout all these years. We appreciate all your efforts in coordinating a pleasant conference every year. We will miss you dearly!



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## New Investigators in Drug Abuse Research

The goal of this panel is to highlight up-and-coming scientist in drug abuse research. The panel consist of four early career investigators that range from graduate students to early stage principal investigators. Below we showcase their topic of research.

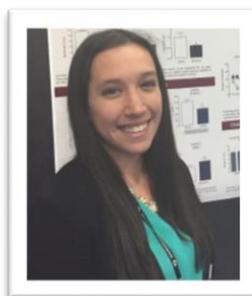


1. Kevin Uribe kicked off the first presentation. He is a graduate student at The University of Texas at El Paso and is laboratory-mates with the Co-Editors of El Faro. His presentation addressed how a biological marker of stress, corticotropin releasing factor, when infused in the brain areas of reward enhances the reinforcing effects of nicotine in female rats. His talk was titled: *Overexpression of a stress peptide in the brain selectively increases nicotine self-administration*. Great work!
2. The second presentation was followed by Jaime Karch. She is a graduate student at the College of Health and Nursing Innovation at Arizona State University. Her presentations addressed how metabolic disorders may result in gene-environment interactions. Her talk

was titled: *Changes in miRNA species following lifestyle intervention among obese Latino youth with prediabetes*.

3. Dr. Mayra E. Vargas-Rivera gave the third presentation. Her talk addressed how flavored water pipe tobacco influences tobacco use among the young Hispanic population. Her research talk was titled: *Design and implementation of a novel approach to measure flavored waterpipe tobacco*.
4. Last but not least, Dr. Oralia Loza gave the final presentation in this panel. Her talk addressed the influence of the methamphetamine on sexual risks. Her presentation was titled: *Drug use and sexual risk associated with having sex with men in the last 12 months among men who use Methamphetamine in a Mexico-U.S. Border City*.

## New Members Spotlight:



### Jennifer Martin

Jennifer Martin is a graduate student at the University at Buffalo, SUNY in the Department of Pharmacology & Toxicology. She works in the laboratory of Dr. David Dietz. Her graduate studies investigate the role of opiates and heroin on the brain reward circuit.



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### 1) Why did you decide to join the NHSN?

I initially decided to join the NHSN because I was invited to present a poster at the annual conference, and many of my close colleagues and their mentors were part of the network and spoke highly of their experiences. And I can honestly say that joining the network has been one of the best decisions I have made. Not only is this a group of distinguished scientists in areas of both basic and translational research, but they are also serve as mentors for next generation scientists, like myself. If there's one thing I've learned in graduate school thus far, it's that you can never have too many amazing mentors in your life, and this is something being a part of NHSN has provided me.

### 2) When and why did you become interested in Hispanic health research?

I became interested in Hispanic (and minority) health research in high school when I worked with my uncle at Native American Community Services in Buffalo, NY. As I moved into my graduate career, this interested deepened as I was exposed to successful scientists from both Hispanic and other minority backgrounds that have made a big impact in serving our communities.

### 3) Briefly describe your current line of research (2-3 sentences).

My current line of research is focused on investigating the effects of opiates, and specifically heroin, on the reward system. My two projects have focused on investigating the effects of oligodendrocyte precursor cells in the

prefrontal cortex in regulating motivation to seek drug, and on how actin dynamics in the nucleus accumbens regulate relapse-like behaviors in rodents.

### 4) What is your ultimate dream in terms of your career? Have you already accomplished this?

My ultimate career goal is to obtain a tenure-track faculty position at a research institution. This will allow me to continue to study the effects of drugs on the brain, while also being able to mentor the next generation of scientists.

### 5) What is the most important lesson you learned as a graduate student?

The most important lesson I learned as a graduate student is that it's okay to take time for yourself; I promise, taking time to spend with your family / friends won't make or break your academic career!

### 6) What is the most important quality you look for in a mentor?

The most important quality I look for in a mentor is passion. We all know that graduate school is filled with ups and downs, but even in the worst moments, when you have a mentor who is enthusiastic about your work and believes your research will make a difference, it makes it easier to push through those hard times.

### 7) What advice would you give on how to handle stress?



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The two biggest ways I deal with stress are: friends and exercise. Have a group of friends who you can celebrate the milestones with, but who will also take you out when it feels like you're having the worst week ever. I also go to the gym every day, it helps me start the day with energy and a clear head, but can also be a way to relieve stress at the end of the workday.

**8) What is your cultural background and how did it influence your choice of career and/or research area?**

I am Native American, and it influenced my career choice because I wanted to show my younger family members that we could go out and make a difference in the world, especially through research and healthcare.

**9) What do you do for fun?**

I really like to watch and cheer for my local sports teams. We may be in a 17-year playoff drought, but nothing gets my week started quite like cheering for the Buffalo Bills!



**Rubi Gonzales**

Rubi Gonzales is a graduate student at The University of Texas at El Paso in the Department of Psychology. She works in the laboratory of Dr. Craig Field. Her current graduate studies involve examining health

disparities among the Latina/o population, specifically, HIV/AIDS, STDs, and drinking.

**1) Why did you decide to join the NHSN?**

I had heard nothing but positive things about NHSN from current members. However, more importantly I wanted to find a home where I was surrounded by researchers who identified as Latinx and/or are committed in conducting health disparity research among the Latina/o population.

**2) When and why did you become interested in Hispanic health research?**

When I was an undergraduate at the University of Houston. I recognized that there was a need for more research to be conducted in the Latina/o population. I realized there were health inequities and I wanted to know why and how I could help.

**3) Briefly describe your current line of research (2-3 sentences).**

Broadly speaking, I am interested in studying the health disparities among the Latina/o population, specifically, HIV/AIDS, STDs, and drinking. Additionally, I am interested in studying the pervasive issue of sexual assault, more specifically male sexual perpetrators among subgroups such as military, fraternities, and athletes.

**4) What is your ultimate dream in terms of your career? Have you already accomplished this?**

I would like to be in a position where I can apply my knowledge of health disparities among the Latina/o population to reduce and eventually eliminate the health



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inequity. Additionally, I would like to be in a position where I can pay it forward and mentor underrepresented students.

**5) What is the most important lesson you learned as a graduate student?**

I have learned to advocate for myself and understand that people in graduate school experience feelings of the imposter syndrome and those feelings are completely normal.

**6) What is the most important quality you look for in a mentor?**

Someone who can recognize weaknesses and strengths of a graduate student and can help strengthen those *current* weaknesses. Someone you can have cheering for you on the sidelines and wants to see you succeed.

**7) What advice would you give on how to handle stress?**

Have a support system that you can go to for any issues that you may have or to have as a sounding board. Workout and eat well, we have to self-care if we want to help others. A good balance is key. Academia does not define you, it is only a part of you.

**8) What is your cultural background and how did it influence your choice of career and/or research area?**

I identify as a Latina. My mom is from Mexico, my dad is of Mexican descent, and I was born in Houston. This greatly influenced my choice for

my current research area. The Latina/o population is often at a disadvantage in many aspects. However, that does not mean it has to stay as such. We offer a lot and I choose to pursue graduate school to help contribute to close in on those inequities.

**9) What do you do for fun?**

I like to work out. Weight training and high intensity interval training are my favorite! I also like to go dancing, anywhere from bachata and merengue to country too!

## Member Accomplishments

We would like to congratulate the ECLC members on their recent accomplishments. Congratulations! Please congratulate your fellow members! Below we showcase their work!

1. We congratulate the Co-Editor of El Faro, Rodolfo Flores, Dr. Laura E. O'Dell and Dr. Luis Natividad along with fellow NHSN Members on their recent publication on amino acids and sex differences during nicotine withdrawal.
  - a. *Amino acid modulation of dopamine in the nucleus accumbens mediates sex differences in nicotine withdrawal.* Carcoba, L.M., Flores, R.J., Natividad, L.A. & O'Dell, L.E. *Addiction Biology* 2017 Sep 22. doi: 10.1111/adb.12556
2. Congratulations to Dr. Luis Natividad on his recent published articles!
  - a. *Phosphorylation of calcium/calmodulin-*



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*dependent protein kinase II in the rat dorsal medial prefrontal cortex is associated with alcohol-induced cognitive inflexibility.* Natividad LA, Steinman MQ, Laredo SA, Irimia C, Polis I.Y, Lintz R., Buczynski M.W, Martin-Fardon R, Roberto M, Parsons LH. *Addiction Biology* 2017 Sep 22. doi: 10.1111/adb.12568.



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