Welcome to the Summer 2021 edition of El Faro: La Voz de la Red.

The purpose of this newsletter is to keep you up to date with current topics and research amongst members of the National Hispanic Science Network (NHSN) and the Early Career Leadership Committee (ECLC). In this edition we feature stories from NHSN members as they share insight on leadership and resilience while navigating academia. Furthermore, we look back on NHSN conference highlights while celebrating the accomplishments of our community.
Inspiring Hispanic/Latinx Scientists in America
Scientist biographies were obtained from their respective university websites

Ulises Ricoy, Ph.D.
Associate Scientist and Faculty Director, University of Arizona
‘Explore low-cost and hands-on approaches (using invertebrates) in neuroscience to explore behavioral and physiological questions (learning and memory, locomotor activity, drug-seeking, drug reward) with undergraduates. Broadening access in Neuroscience to historical underserved populations via low cost approaches has been the vision of my past and current interests’

Carmela Alcántara, Ph.D.
Associate Professor, Columbia University
‘Her research examines the ecological relationship between sleep, self-regulation, and health behaviors in Latina/o adults, and she is director of the Sleep, Mind, and Health Research Program at the Columbia School of Social Work’

Nayeli Y. Chavez-Dueñas, Ph.D.
Full Professor, The Chicago School of Professional Psychology
‘She is the Co-Director of the IC-RACE Lab (Immigration Critical Race And Cultural Equity Lab). Her research focuses on colorism, skin-color differences, parenting styles, immigration, unaccompanied minors, multiculturalism, and race relations’

Hector Y. Adames, Ph.D.
Associate Department Chair, The Chicago School of Professional Psychology
‘His research focuses on how socio-race, skin-color, colorism, and ethnic and racial group membership influence wellness. Specialty areas of research include healthy and diseased memory, implicit cognition/bias, Latino/a Psychology, & multiculturalism’

Joe L. Martinez, Jr., Ph.D. (1944-2020)
University of California, Berkeley (1982-1995), Psychology Department Chair, University of Illinois at Chicago
‘A passionate advocate for the advancement of underrepresented minorities in STEM, Martinez cofounded the Summer Program in Neuroscience, Ethics and Survival, a month-long course supported by the National Institutes of Health at the Marine Biological Laboratory in Woods Hole, Massachusetts. For over 20 years he co-directed the American Psychological Association’s Diversity Program in Neuroscience, which supports the training of diverse doctoral and postdoctoral neuroscience students.’

Yarimar Carrasquillo, Ph.D.
Lead Investigator, Pain and Integrative Neuroscience Branch, National Center for Complementary and Integrative Health
‘She leads the Behavioral Neurocircuitry and Cellular Plasticity Section in the NCCIH Intramural Division. The main goal of the lab is to identify anatomical, molecular, and cellular mechanisms that underlie pathological pain states’
**What factors have shaped your career path and helped you become the researcher you are today?**

For me, my career path has been shaped by the mentors I have had at each stage of my career. I always had great mentors that believed in me and allowed me to pursue my personal research interests in their labs. **In doing so, all my mentors allowed me to pursue projects in their labs that were outside their immediate comfort zone and develop independence.** The first instance of this was in Dr. Laura O’Dell’s laboratory at the University of Texas at El Paso as an undergraduate student where I studied the role of kappa-opioid receptors in mediating nicotine withdrawal. Dr. O’Dell, an expert on nicotine addiction, was supportive of my new-found fascination with kappa-opioid receptors and allowed me to take the initiative to design a study, carry out and interpret the experiments, and write the manuscript. **Her kindness and support forever changed my research path and provided a strong foundation for independence that I would later cultivate as a graduate student and post-doctoral fellow.** It also strengthened my research interest in endogenous opioid receptor systems, which has been a focus of my research at each stage in career and is a cornerstone of the research we do in our laboratory at NIMH.

“This opportunity made me realize that a strong work ethic and that taking the initiative and being proactive in your academic and scientific development are essential components of becoming an independent investigator.”

**Where do you see the field in addiction heading in 10, 20 years? What do you hope to accomplish in the next 5 years?**

Neuroscience as whole has seen tremendous advancements thanks, in part, to the explosion of tools available to monitor and manipulate brain circuits and molecularly-defined cell types and computational approaches to digest large data sets. As newer tools are developed and we learn more about neuronal circuits and computations essential for emotions and motivated behavior, this will also open up opportunities to understand what is occurring in the brain of animals that are “addicted” and humans with addictive (cont.)
behaviors. Many recent technological advancements also open the possibility for translational research as they provide identical endpoints that can be assessed in both animal models and humans. For instance, single-cell RNA sequencing of brain tissue can be conducted in humans with addictions and in animal models of addiction-like behaviors, giving a more “apples-to-apples” comparison between clinical and pre-clinical research. Advancements in computational neuroscience will also drive advancements in addiction. For example, it is clear that drug-seeking behavior is complex and driven by a plethora of factors that differ from person-to-person. Gaining deeper understanding of behaviors and decisions involved with addiction through a combination of real world monitoring of behavior and physiological responses (i.e., via data obtained from a person’s phone) in combination with in-depth computational analyses may allow us to predict who may become addicted, when a person is seeking or taking drugs, and/or predict when someone is going to relapse. This may provide a window for healthcare providers and/or family to intervene to curb and treat alcohol and drug addiction.

In our laboratory, our research is aimed at elucidating the principles by which neuropeptides and their cognate receptors, including opioid peptides and receptors, regulate information processing from the cellular level to the level of interconnected circuits that control emotions and motivation. To this end, our laboratory employs an interdisciplinary approach utilizing a combination of electrophysiology and in-vivo imaging approaches coupled with anatomical, optogenetic, genetic/viral, and behavioral approaches. We are continuously adapting our approaches as technology develops to more thoroughly address our research questions; from working with genetically-encoded fluorescent sensors that provide an index of opioid system activity to using genetic approaches to pharmacologically block opioid receptor signaling in molecularly-defined cell types, as examples.

As such, we are presently collaborating with clinical investigators at NIH to determine whether dysregulation of the dynorphin/kappa-opioid receptor system contributes to mal-adaptive emotional and addictive behavior in patients with severe trauma.

"Our long-term goal is to leverage our understanding of neuropeptides to identify novel therapeutic targets for the treatment of neuropsychiatric disorders."

How can mentors provide more research experiences and opportunities to young scientists?

Mentors can direct students to research workshops, courses, and related experiences so that students can gain knowledge or acquire technical skills outside what is currently done in their laboratory or to strengthen existing approaches. At the very least, mentors should direct students to resources where such opportunities are available, such as institutional training and education offices. Accordingly, the NIH intramural research program is an excellent place for students to get additional experiences and opportunities.
These come in the form of post-bac fellowships, graduate research experiences through the NIH Graduate Partnership Program, Medical Research Training, or post-doctoral training fellowships, to name a few.

Mentors should also encourage (if not require) students to submit fellowships or grants. Most fellowships and grants for trainees require them to develop research and professional development plans, including networking opportunities, professional development workshops, and/or analytical or technological workshops. Moreover, most fellowships and grants that trainees are eligible for are associated with opportunities to enhance scientific and professional development. Thus, submitting a grant or fellowship automatically forces individuals to identify research experiences and training opportunities. Mentors should also be proactive about expanding a trainee’s network, including introducing the trainee to other people that can serve as official or unofficial co-mentors. Networking provides opportunities for future jobs and training opportunities.

What advice would you give to graduate students and young investigators?

Identify quality mentors that will support you through good and bad times. These can include people beyond your graduate school or post-doctoral fellowship. You may need to find “niche” mentors that support you in specific areas. For big decisions or career/life events, seek the advice of multiple mentors. Follow advice when there is clear consensus and agreement between mentors. In cases where conflicting viewpoints are offered by different mentors, use all the inputs to help shape “your” own decisions, by making executive decisions of the advice you do and don’t follow.

Find your passion within science. If you have found that your science is one of your passions, my congratulations to you! You found a way to get paid for doing your hobby! If you are not passionate about what you are doing, try to find out why. Are you burned out? Is the research question not interesting you? Is your laboratory environment toxic or unsupportive? Identify the factors that may be hindering your passion for science. Be open with your mentors and colleagues and get support to improve the situation. If you do the soul-searching and still find that you are not passionate, that is okay. This tells you that other areas of academic science or outside of science as a whole may lead to a more fulfilling career.

Embrace failure. Not every experiment works. Not every grant gets funded. That’s okay. Turn those into opportunities to learn about what doesn’t work. Give yourself time to digest your hardships but don’t dwell. There is always another study and/or experiment for you to embark on and succeed. There are always more grants or fellowships to submit. You are running a marathon. The important thing is to finish it. Nobody cares what place you finish in. Don’t burn yourself out or quit if you feel frustrated at 400 m.
Shake the impostor syndrome. Most scientists have impostor syndrome. We discourage ourselves more than anyone. **Humility and a taste of self-skepticism in your work is essential for growth, rigor, and improving your productivity.** From the reinforcement perspective, impostor syndrome can be thought of as a negative reinforcer that forces you to be careful and more thorough/rigorous in your work. That is, you work harder and more carefully to produce a quality product that makes you feel proud and dampens impostor syndrome worries in your life. In some cases, impostor syndrome can also act as a punisher that decreases proactive and adaptive behaviors essential for improving your professional and personal life. Most of us have impostor syndrome and we can't help it. What we can help is whether we use it make us better (we treat it as a negative reinforcer) or to drive us down (we let it be a punisher).

“We discourage ourselves more than anyone...most of us have impostor syndrome and we can’t help it”

“What we can help is whether we use it make us better (we treat it as a negative reinforcer) or to drive us down (we let it be a punisher)”
The Age of Misinformation

No news isn’t good news—True news is good news

By Dr. Cho Hee Shrader

According to a recent Pew Research study, over 70% of American adults receive at least some news from their social media platforms. That’s right—as a whole, we turn to social media platforms like Facebook, Instagram, and Snapchat to stay current on news, science, and information. Over 57% of Americans have concerns about the accuracy of the information they receive and believe it to be largely inaccurate…. yet they continue to seek information from these social media platforms. When asked why they preferred to seek information from social media, Americans largely responded that they like the convenience, as social media platforms are easier to use than traditional news outlets for digesting information. It’s so important to stay informed. However, as social media is clogged with fake news, it’s more important now than ever to be web literate, especially when fact checking social media content.

In the traumatic wake of COVID, it is even more important to make sure that we, as scientists, double check any post before trusting that information, and then check it once again before casually reposting it to our platforms. Social media platforms do not always fact-check informational posts and articles. Social media is becoming increasingly popular and more important day by day for most. As 70% of Facebook users get their news from the source, it’s as important as ever to ensure that what we’re consuming is true. Despite the ethical challenges of socially responsible science, it is our duty to our community to ensure that we uphold the highest standard of ethical information sharing: NHSN members’ 280-character Tweets harness the power of truth and are necessary for research rigor and communication.

Combating COVID Vaccine misinformation in Hispanic/Latinx Communities

According to the CDC, Hispanic/Latinx individuals are 2x as likely as white adults to contract the virus and 2.3x more likely to die from it. One of the main reasons for inequities in vaccination rates by race and ethnicity is the significant misinformation about vaccines and lack of health education. Confronting misinformation head-on can increase vaccine rates and save lives. Here are five ways to do that:

1. Meet people where they are
2. Use trusted messengers
3. Hold social media companies responsible for misinformation
4. Choose words carefully (avoid jargon)
5. Pay attention to health literacy
   a. Health literacy can come in the form of art, dance, music, etc.
Looking Back to Look Ahead: Rediscovering and Expanding the Foundations of Substance Use Research with Diverse Populations as we Enter a Post-Pandemic World

REGISTRATION NOW OPEN
There is no fee for Virtual Conference

Please welcome 2021 NHSN Conference Scientific Co-Chairs

In this conference, we will rediscover the historical foundations of our field, highlight the remarkable progress we have achieved, and reflect on the critical challenges that must inform our work in the future

Marisela Morales, Ph.D.,
Chief Integrative Neuroscience Research Branch; Chief, Neuronal Networks Section; Director, Core Facilities; National Institute on Drug Abuse

Ruben Farra-Cardona, Ph.D.,
Associate Professor, Steve Hicks School of Social Work, The University of Texas at Austin

Miguel Pinedo, Ph.D.,
Assistant Professor, Department of Kinesiology and Health Education, The University of Texas at Austin

Featuring Plenary Speaker:
Kizzmekia Corbett, PhD
Assistant Professor at Harvard T.H. Chan School of Public Health
The Enhanced Interdisciplinary Research Training Institute (eIRTI) promotes the career development of pre-doctoral, post-doctoral and early career scientists interested in conducting research on substance abuse as it affects Hispanics. The eIRTI builds upon nine years of successful development and implementation of the research education program, IRTI. While substance abuse in the United States continues to have a disproportionate impact on ethnic minorities, particularly Hispanics, the number of researchers studying the problem remains relatively small. Moreover, few training and research centers exist that focus on current drug abuse issues among Hispanic populations.

**Four Main Goals:**

- **Increasing the amount and quality of research on minority health and health disparities**
- **Increasing the number of underrepresented Hispanic investigators who establish vibrant and independent programs of substance abuse research**
- **Enhancing trainee's knowledge and skills related to conducting substance abuse and addiction research**
- **Improving the health of minorities in part by decreasing minority health disparities**

This comprehensive and coordinated effort has focused on providing research experience and increasing the skills required for the preparation and submission of research applications for NIH extramural funding. The institute provides three core activities to research fellows: training, tri-mentoring, and networking. Visit our website our website to learn more.

**Save the Date: 2022 eIRTI Summer Training June 6-11, 2022**

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Rudebeck, P. H., & Izquierdo, A. (2021). Foraging with the frontal cortex: A cross-species evaluation of reward-guided behavior. *Neuropsychopharmacology: official publication of the American College of Neuropsychopharmacology, 10.1038/s41386-021-01140-0*. Advance online publication. https://doi.org/10.1038/s41386-021-01140-0


