

# Strategies to Improve Faculty Diversity What can the Health Research Alliance Do?

Linda Sealy, Ph.D.

Senior Advisor to the Dean of Basic Sciences for Diversity, Equity and Inclusion

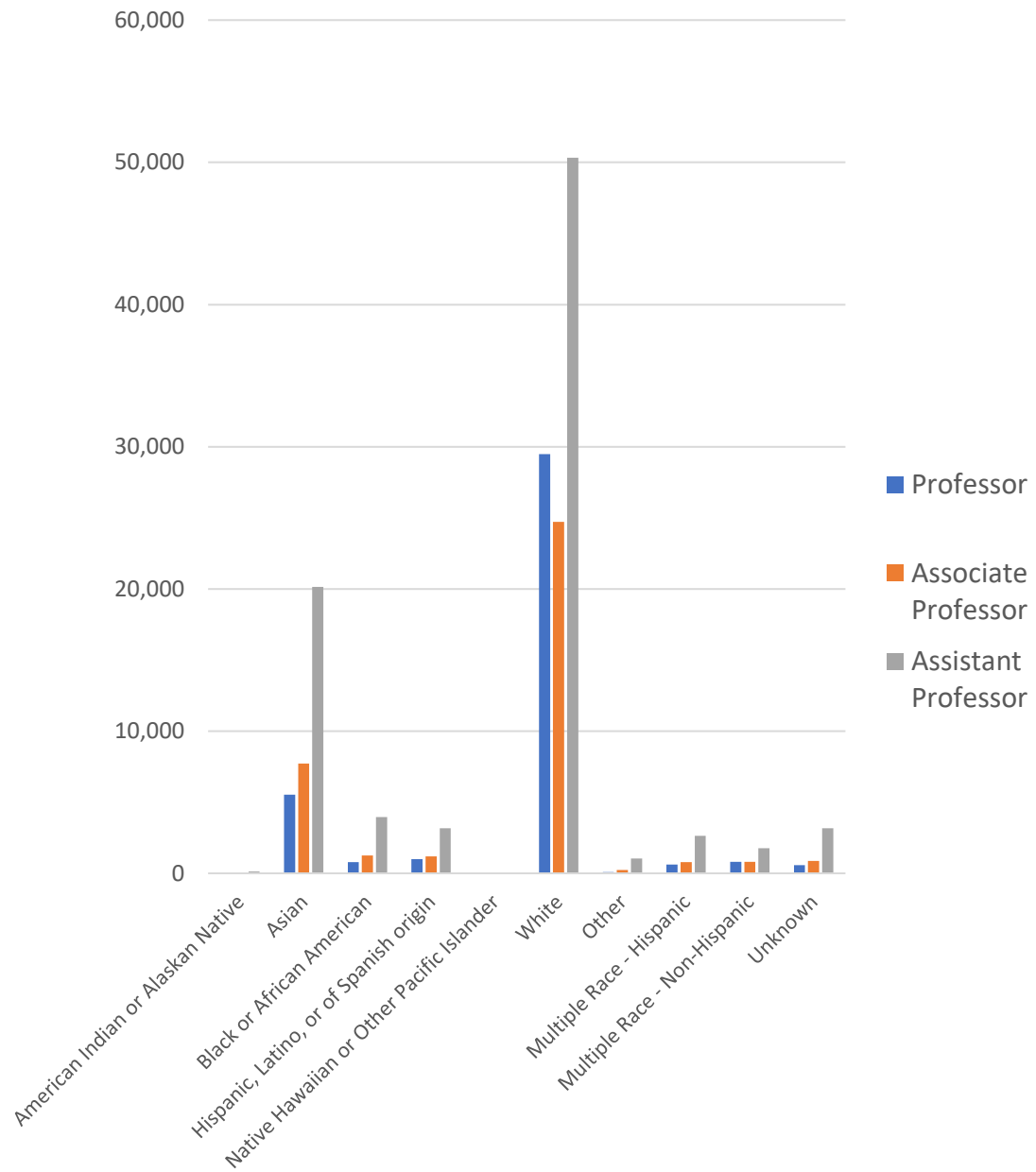
Research Professor of Molecular Physiology and Biophysics

Vanderbilt School of Medicine



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US Medical School Faculty Diversity 2020\*



## The Challenge of Faculty Diversity

What is the path forward?

\*Data from table 3 – <https://www.aamc.org/media/8906/download>

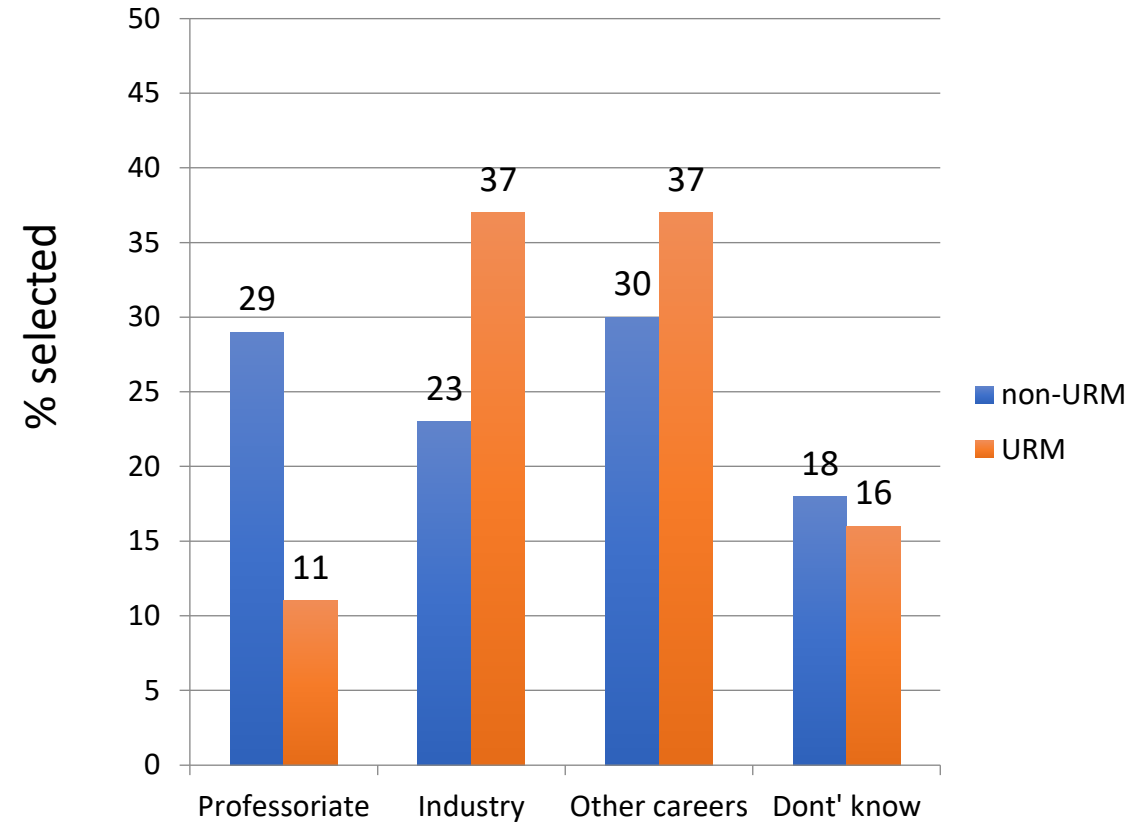
# The Vanderbilt IMSD

*established in 2002, 2007 as graduate program*



59 PhDs awarded as of March 2021

# Survey of Vanderbilt Biomedical Graduate Student Career Choice

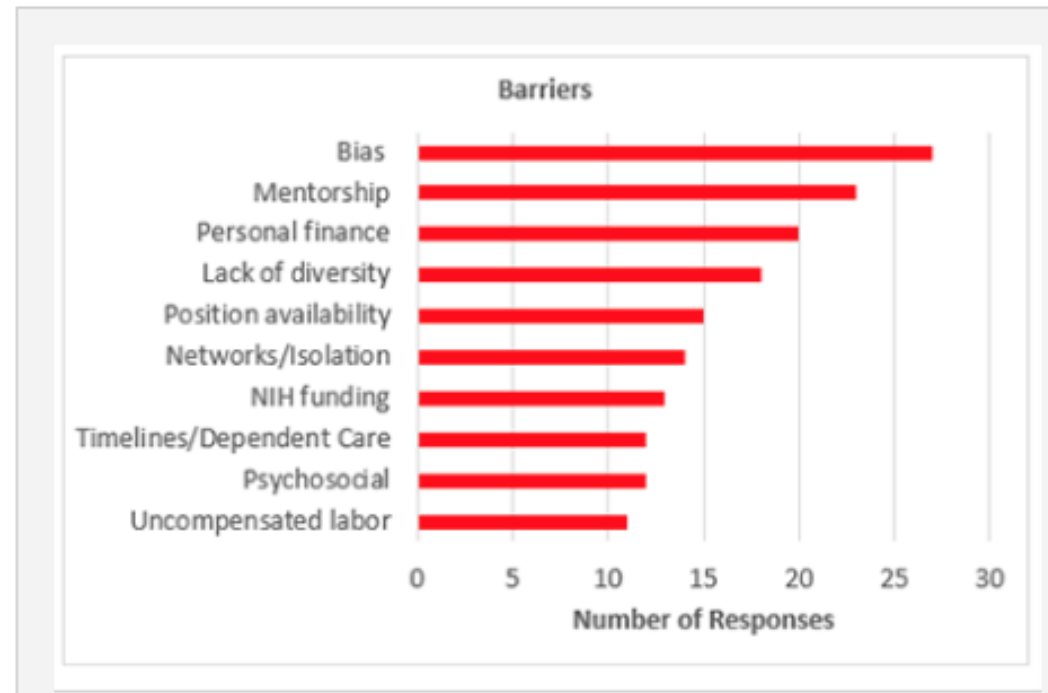


2017

RFI: NOT-GM-18-034

# Strategies for Enhancing Postdoctoral Career Transitions to Promote Faculty Diversity

Alison Gammie, Michael Sesma, Kenneth Gibbs



What are the barriers encountered to progressing into faculty positions at research-intensive institutions?

1. Lack of effective mentoring, especially first gen trainees
2. Feelings of inadequacy, such as suffering from imposter syndrome, and microaggressions within the lab/institutional environment
3. Experiencing cultural and institutional biases from faculty and institutional leadership

## What is Culturally Aware Mentor Training?

- Fundamentals of best mentoring practice
- Interwoven with self-reflective dialogue about race and ethnicity and their influence on training experiences

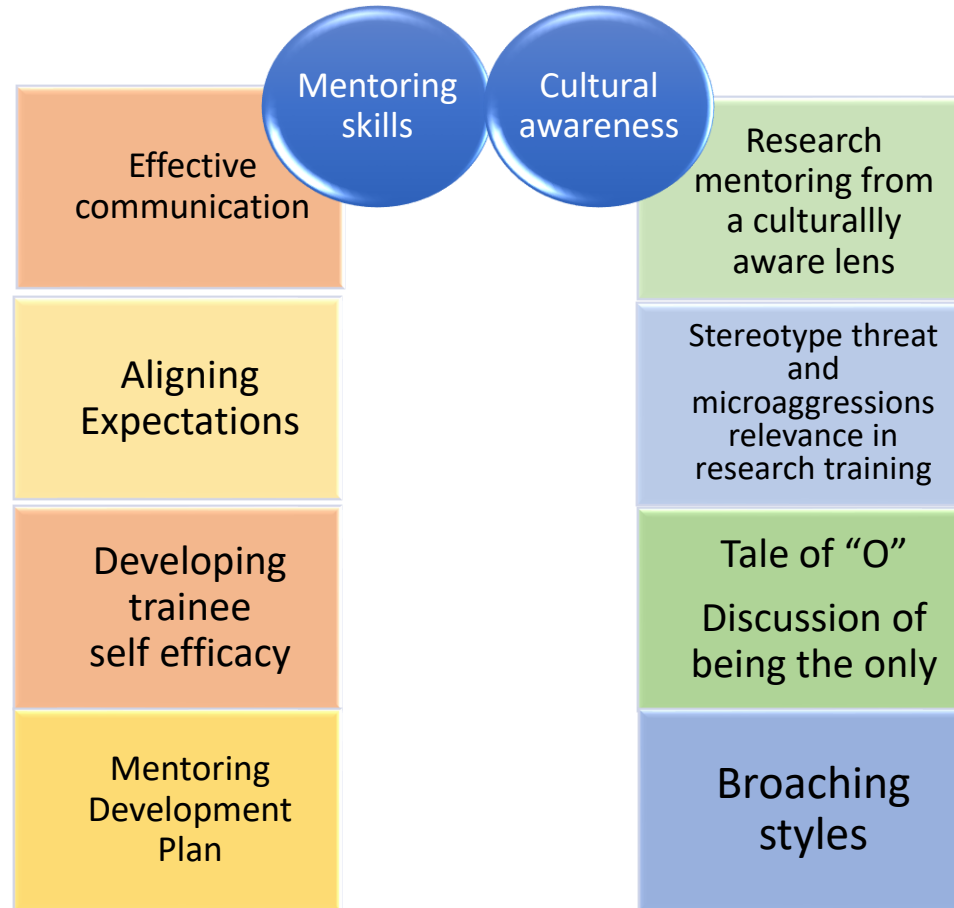
# Culturally Aware Mentoring Workshops



**Christine Pfund, PhD**

Director and PI, Mentor Training Core, National Research Mentoring Network (NRMN - \$19 million NIH initiative)

Lead author, *Entering Mentoring* curriculum



**Angela Byars-Winston, PhD**

Professor of Medicine, University of Wisconsin School of Medicine

Lead author, *Culturally Aware Mentoring* curriculum



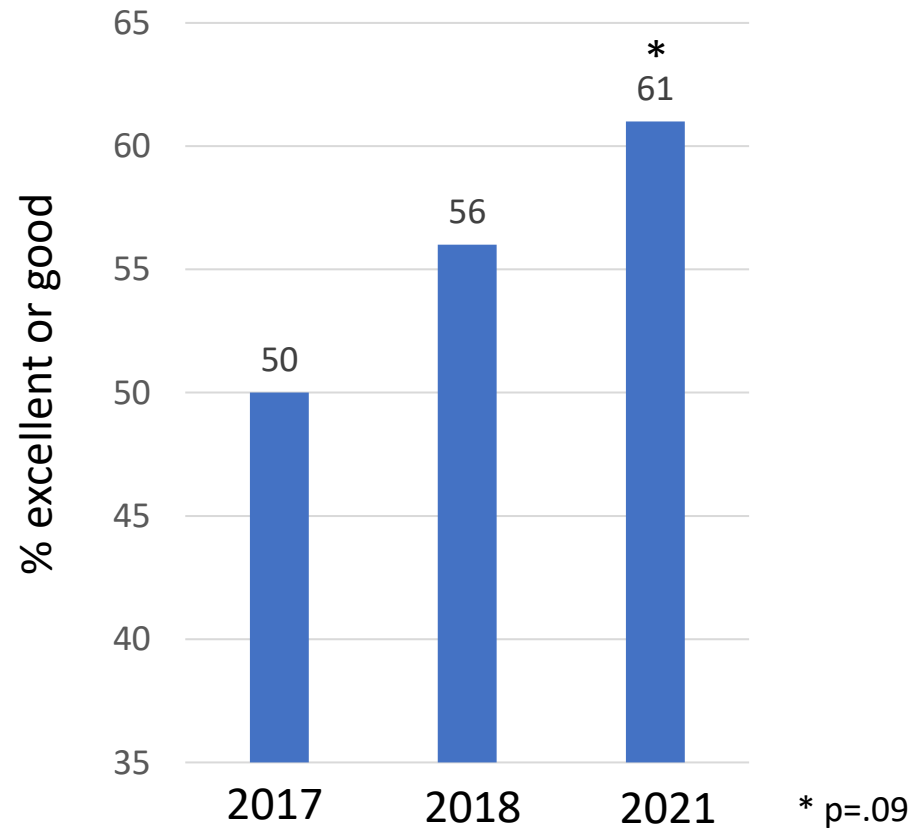
**Homework: Online module** (a history of racial discrimination and civil rights in the US)



**Mentee (graduate student)  
culture and climate survey data:**

**Rate your mentor's ability to . . .**

Encourage discussion of how  
racial/ethnic or gender identity  
influences your training





## Do You Play Fair? A Workshop about Bias in Academia

9am OR 1:30pm | June 28, 2019  
Engineering Science Building 044,048  
Vanderbilt University

**Christine M. Pribbenow, PhD**  
Senior Scientist, UW-Madison

**Percy L. Brown, Jr., MEd**  
Senior Outreach Specialist, Fair Play Project, UW-Madison

**Donald D. Dantzer, M. Ed.**  
Assistant Research Scientist, UW-Madison

**Larry Love, MEd**  
Graduate Project Assistant



We welcome postdocs and graduate students to explore how unconscious bias may impede student success in STEM fields. *Fair Play* raises awareness about stereotypes and other racial biases in academia, which can inadvertently influence judgments about and behavior toward others. In the game, you are Jamal, a graduate student who experiences bias incidents as he navigates through his academic career and interacts with faculty, staff, and students on the college campus. Your success in the game depends on how you interact with colleagues within the game and how well you learn common bias concepts. After playing the game, workshop participants will engage in a facilitated discussion about addressing bias.

2

96% of attendees would recommend this workshop to a colleague

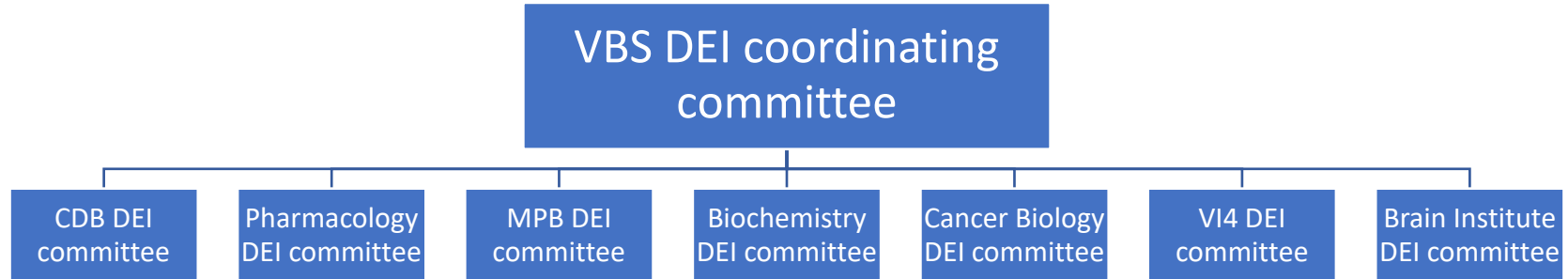
*“this is a phenomenal workshop that I believe can have a huge impact”*

*“While before the workshop I knew what implicit biases were and I knew I and others most likely had expressed them in the past, actually viewing academia from Jamal's eyes and experiencing it for myself made me realize the profound affect it has”*

<https://blogs.scientificamerican.com/voices/how-video-games-can-teach-us-to-play-well-with-others/>

By Natalya Ortolano, 4<sup>th</sup> year graduate student  
In Cell and Developmental Biology

- Building an inclusive community is a shared responsibility.



### **Book Clubs/Discussions**

**Biochemistry** – “Superior” by Angela Saini; “Stamped from the Beginning” by Ibram Kendi, and more.

**CDB** - "Miss Buchanan's Period of Adjustment."

Podcast by Malcolm Gladwell; “Wilmington 1898” [bbc.com/news](http://bbc.com/news)

**MPB** – “Race Really Matters” by David Asai, HHMI; “Unpacking the Invisible Knapsack of White Privilege” by Peggy McIntosh, Wellesley College

### **Special seminars**

**Damisi Fawole**, VU Student Center for Social Justice & Identity. “Impact of Power and Privilege”

**Greg Siskind** – Immigration and the 2020 Election- A Preview of Possible Outcomes

**Kafui Dzirasa, MD, PhD.** Assoc. Prof of Psychiatry and Behavioral Sciences, Duke University. “Translating Neuroscience: Obstacles and Opportunities

# Discovery Science Emerging Scholars Lecture Series at Vanderbilt

Discovery Science Emerging Scholars Lecture

## Dopaminergic Regulation of Relapse-Dependent Glutamatergic Plasticity



Dr. Spencer will present her modified cocaine relapse model and the alterations in transient synaptic plasticity associated with relapse-dependent plasticity.

**Thursday**  
October 5, 2017  
4:00 p.m.

Preston Research Building 206

Sade Spencer  
Department of Neuroscience, Medical University of South Carolina


This lecture series features the most promising young scientists who are making notable discoveries as postdoctoral fellows or early career faculty.

Sponsored by  
Vanderbilt Center for Addiction Research

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Discovery Science Emerging Scholars Lecture

## "Accelerating CAR T Cells from the Model T to Driverless"



Dr. Posey will discuss engineered T cell therapies designed to treat cancer, including progress and evolution of translating the success of substance treatments to solid tumor treatment.

**Thursday**  
November 16, 2017  
12:00 p.m.

Preston Research Building 206

Avery Posey, Jr.  
Department of Pathology and Immunology, University of Maryland

This lecture series features the most promising young scientists who are making notable discoveries as postdoctoral fellows or early career faculty.

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Vanderbilt Ingram Cancer Center

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Discovery Science Emerging Scholars Lecture

## "CD8+ T Cells Regulate Liver Injury in Obesity-Related Nonalcoholic Fatty Liver Disease"



Dr. Kennedy will focus on the role of CD8+ T cells in the development of obesity-associated NAFLD. His research is on identifying the type and function of immune cells that influence the liver in obesity-associated NAFLD. His talk will focus on the role of CD8+ T cells in the development of obesity-associated NAFLD.

**Thursday**  
December 14, 2017  
4:00 p.m.

206 Preston Research Building

Arion Kennedy  
Department of Immunology, Pathology and Biophysics, Vanderbilt University

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Discovery Science Emerging Scholars Lecture

## "Beyond GPCR Recycling: B-Arrestin as a Neuroprotective Modulator of Innate Immune Responses"



Dr. Williams' talk will focus on the organ-specific, neuro-immunological role of arrestin that serve to regulate immune activation during and reduction of the brain.

**Thursday**  
February 1, 2018  
4:00 p.m.

512 Light Hall

Donna Williams  
Professor of Neurobiology, Center for Experimental Research in Neurobiology, Department of Psychology, Vanderbilt University


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Discovery Science Emerging Scholars Lecture

## "K63 Ubiquitin and the Regulation of Translation in Response to Oxidative Stress"



Ubiquitin is a prominent post-translational modification, which targets numerous beyond protein degradation. In this talk, Dr. Silva will present his research on how ubiquitin modifies ribosomes and controls cell resistance to stress.

**Thursday**  
March 1, 2018  
4:00 p.m.

206 Preston Research Building

Gustavo Silva  
Assistant Professor of Biology, Duke University


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Discovery Science Emerging Scholars Lecture

## "Genetic Interrogation of Neural Circuit Mechanisms for Pain"



We are seeking to uncover the mechanisms governing sensory processing of touch, itch, and pain. Using optogenetics, quantitative analysis of neural behavior, and in vivo calcium imaging, we have identified a population of pain-sensing neurons that control behavioral responses to pain. I will discuss our findings and the implications for understanding the neural circuit mechanisms for pain.

**Thursday**  
May 3, 2018  
4:00 p.m.

512 Light Hall

Imhail Abbas-Soobor  
Postdoctoral Fellow, Department of Neuroscience, University of Pennsylvania

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Discovery Science Emerging Scholars Lecture

## "Targeting RAS and mutant p53: Discovery of RNA splicing as a therapeutic vulnerability in pancreatic cancer"



The Ras pathway is a central mechanism of cooperation between the two most common oncogenes in pancreatic cancer: KRAS and mutant p53. Activating a genetic therapeutic approach to target Ras and mutant p53 requires the ability to identify and target the specific molecular mechanisms that regulate the function of these factors. Our lab has developed a novel class of mutant p53 inhibitors that target the function of mutant p53. In this talk, I will discuss the development of these inhibitors and their potential as a novel therapeutic approach to treat pancreatic cancer, including recent and early data.

**Tuesday**  
November 13, 2018  
4:00 p.m.

206 Preston Research Building

Lolita Escobar-Hoyos  
Postdoctoral Research Fellow, Memorial Sloan-Kettering Cancer Center, Research Assistant Professor, Stony Brook University


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Discovery Science Emerging Scholars Lecture

## "Systems Biology Approaches to Predict the Dynamics of Biochemical Networks in Cancer"



Systems biology approaches, including computational models, provide a framework to explore the dynamic responses of cancer. My research group focuses on modeling the dynamics of biochemical networks in cancer. I will discuss our recent work on predicting the dynamics of biochemical networks in cancer using systems biology approaches.

**Thursday**  
February 7, 2019  
4:00 p.m.

512 Light Hall

Stacey D. Finley  
Assistant Professor, Department of Neuroscience, University of Southern California

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Discovery Science Emerging Scholars Lecture

## "Impaired Endocannabinoid Signaling in Stress and Addiction"



Heavy alcohol consumption induces long-term problems with stress and anxiety, and is common among dependent individuals who are at high risk of relapse and re-addiction. I will discuss our recent work on the role of endocannabinoid signaling in stress and addiction.

**Tuesday**  
March 5, 2019  
4:00 p.m.

206 Preston Research Building

Luis Nathvidad, Ph.D.  
Senior Research Associate, The Scripps Research Institute, La Jolla

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Vanderbilt Center for Addiction Research

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Discovery Science Emerging Scholars Lecture

## "Synthetic Genome Regulation for Cell and Tissue Engineering"



The Downing Lab is interested in understanding how the chemical and biological microenvironment influences cell-cell and cell-matrix interactions through synthetic gene regulatory mechanisms. We design and build synthetic gene regulatory networks that can be used to control cell fate and function in cell and tissue engineering.

**Thursday**  
April 25, 2019  
4:00 p.m.

512 Light Hall

Timothy L. Downing, Ph.D.  
Assistant Professor, University of California, Irvine

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Discovery Science Emerging Scholars Lecture

## "Probing Novel Targets to Reduce Heavy Drinking in Models of Alcohol Use Disorder"



Alcohol use disorder (AUD) is a chronic relapsing condition with a high risk of mortality and disability. The current treatment for AUD is limited, and there is a need for novel targets to reduce heavy drinking. I will discuss our recent work on identifying novel targets for AUD treatment.

**Tuesday**  
November 12, 2019  
4:00 p.m.

512 Light Hall

Reginald D. Cannady, Ph.D.  
Postdoctoral Research Fellow, Medical University of South Carolina


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Discovery Science Emerging Scholars Lecture

## "The Role of Optineurin in Neuronal Mitophagy"



Mitophagy, the selective removal of damaged mitochondria, is essential to cellular homeostasis and neuronal function. Optineurin (OPTN) is a key component of the mitophagy machinery. I will discuss our recent work on the role of OPTN in neuronal mitophagy.

**Tuesday**  
December 3, 2019  
4:00 p.m.

206 Preston Research Building

Chantell Evans, Ph.D.  
Senior Research in Gray, Postdoctoral Fellow, University of California Berkeley


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Discovery Science Emerging Scholars Lecture

## "OPA-1 Deficiency in Skeletal Muscle Increases Mitochondria ER Contact Formation Through an ATF-4 Dependent Mechanism"



The OPA-1 protein is essential for mitochondrial fusion and cristae maintenance. I will discuss our recent work on the role of OPA-1 in skeletal muscle mitochondria and the mechanism of OPA-1 deficiency.

**Thursday**  
March 5, 2020  
9:30 a.m.

206 Preston Research Building

Arantxe 'A.L.' Hinton, Ph.D.  
Postdoctoral Fellow, University of Iowa

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Discovery Science Emerging Scholars Lecture

## "NAD+ Flux is Maintained in Aged Mice"



NAD+ is a critical cofactor for many cellular processes, and its levels decline with age. I will discuss our recent work on maintaining NAD+ levels in aged mice.

**Thursday**  
October 29, 2020  
9:30 am

Zoom

Melanie McReynolds, Ph.D.  
2018 Hagan H. Gray Fellow, Princeton University

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Discovery Science Emerging Scholars Lecture

## "Investigating the molecular regulation and function of death signaling complexes"



The ubiquitin-proteasome system is a central component of cell death signaling. I will discuss our recent work on the molecular regulation and function of death signaling complexes.

**Thursday**  
November 19, 2020  
9:30 am CT

Zoom Meeting ID: 944 3880 2019  
Passcode: 268701

Cornelia Tabasung, Ph.D.  
Postdoctoral Fellow, Memorial Sloan-Kettering Cancer Center

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Discovery Science Emerging Scholars Lecture

## "Viral Hijacking of Host Molecular Motors to Promote Nuclear Entry"



During viral infection, DNA viruses must hijack the host's molecular motors to promote nuclear entry. I will discuss our recent work on viral hijacking of host molecular motors.

**Friday**  
December 11, 2020  
12:00 pm CT

Zoom Meeting ID: 944 3880 2019  
Passcode: 268701

Chelsea Springs, Ph.D.  
University of Michigan Medical Center, Laboratory of Cell Biology

This lecture series features the most promising young scientists who are making notable discoveries as postdoctoral fellows or early career faculty.

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Discovery Science Emerging Scholars Lecture

## "Leveraging Proteoglycans for Hematopoietic Stem Cell Regeneration"



Proteoglycans are essential for stem cell self-renewal and differentiation. I will discuss our recent work on leveraging proteoglycans for hematopoietic stem cell regeneration.

**Tuesday**  
December 8, 2020  
4:00 pm

Zoom Meeting ID: 946 2486 3710  
Passcode: 061890

Christina Terami, Ph.D.  
Postdoctoral Research Fellow, University of California - Los Angeles

This lecture series features the most promising young scientists who are making notable discoveries as postdoctoral fellows or early career faculty.

Sponsored by  
VANDERBILT | Basic Sciences Department of Cell and Developmental Biology

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Discovery Science Emerging Scholars Lecture

## "Kinase Chemical Genetics in the Closest Living Relatives of Animals"



Although organisms are highly related, they exhibit distinct signaling pathways. I will discuss our recent work on kinase chemical genetics in the closest living relatives of animals.

**Thursday**  
January 21, 2021  
4:00 pm CT

Zoom

Florentine Rutaganira, Ph.D.  
1888 Hagan H. Gray Fellow, University of California Berkeley


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Discovery Science Emerging Scholars Lecture

## "Next-Generation Approaches for Investigating Neuroepidemic Circuits in Reward and Motivation"



Neuroepidemic diseases, such as addiction, are characterized by dysregulation of reward and motivation circuits. I will discuss our recent work on next-generation approaches for investigating these circuits.

**Wednesday**  
March 17, 2021  
9:00 am CT

Zoom

Daniel Castro, Ph.D.  
Asst. Instructor, University of Washington

This lecture series features the most promising young scientists who are making notable discoveries as postdoctoral fellows or early career faculty.

Sponsored by  
VANDERBILT | Basic Sciences Department of Pharmacology

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VANDERBILT UNIVERSITY

Discovery Science Emerging Scholars Lecture

## "Interganelle Communication in Metabolic Health and Diseases"



Metabolically specialized cells display complex interorganelle communication. I will discuss our recent work on interorganelle communication in metabolic health and diseases.

**Tuesday**  
March 30, 2021  
4:00 pm CT

Zoom

Ana Amada, Ph.D.  
Research Scientist, Harvard University School of Public Health

This lecture series features the most promising young scientists who are making notable discoveries as postdoctoral fellows or early career faculty.

Sponsored by  
VANDERBILT | Basic Sciences Department of Cell and Developmental Biology

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Discovery Science Emerging Scholars Lecture

## "Structural Basis of TAM Receptor Oligomerization"



Receptor tyrosine kinases are key regulators of a wide range of biological processes and their dysregulation is a common feature of cancer. I will discuss our recent work on the structural basis of TAM receptor oligomerization.

**Friday**  
April 2, 2021  
12:00 pm CT

Zoom

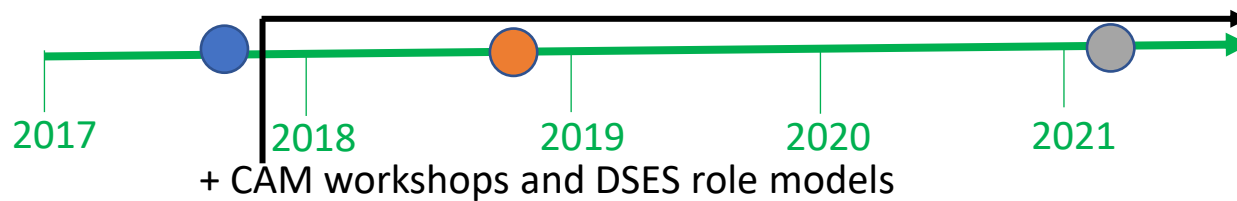
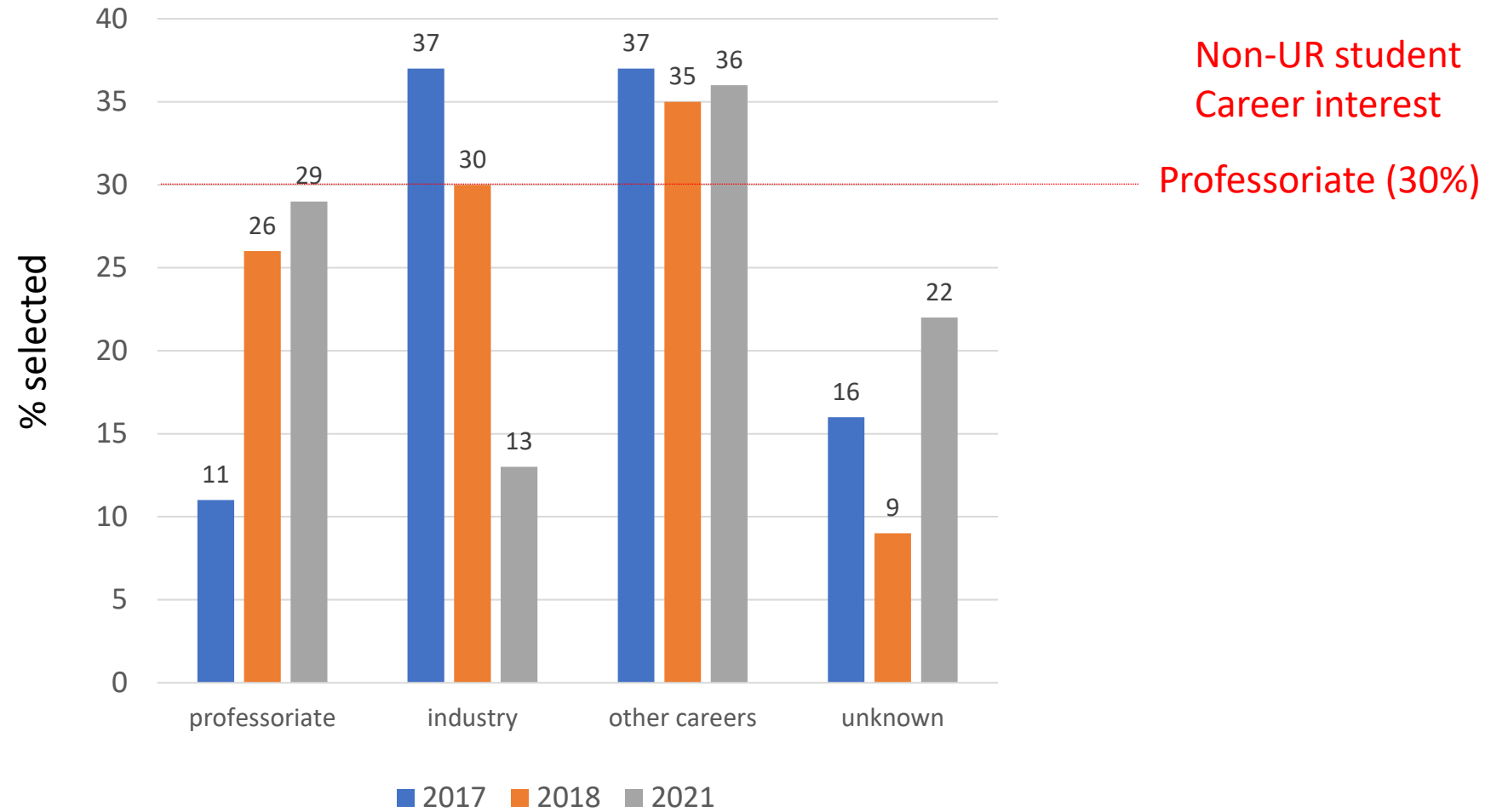
Chrysal Sarin, Ph.D.  
Postdoctoral Fellow, Yale University

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# Survey of Vanderbilt Biomedical UR Graduate Student Career Choice



# *What can HRA members do?*

Diversity = Excellence . . . if the environment is inclusive

## Fellowships

Expect mentor training that is culturally competent

Evaluate mentor's commitment to diversity

How are the mentor and mentee fostering an inclusive environment?

## Research grants

Evaluate PI's commitment to diversity; is the laboratory inclusive?

What is the institution doing to promote diversity, equity, inclusion?

Grants to evaluate inclusivity at the faculty/independent investigator level

Questions?

