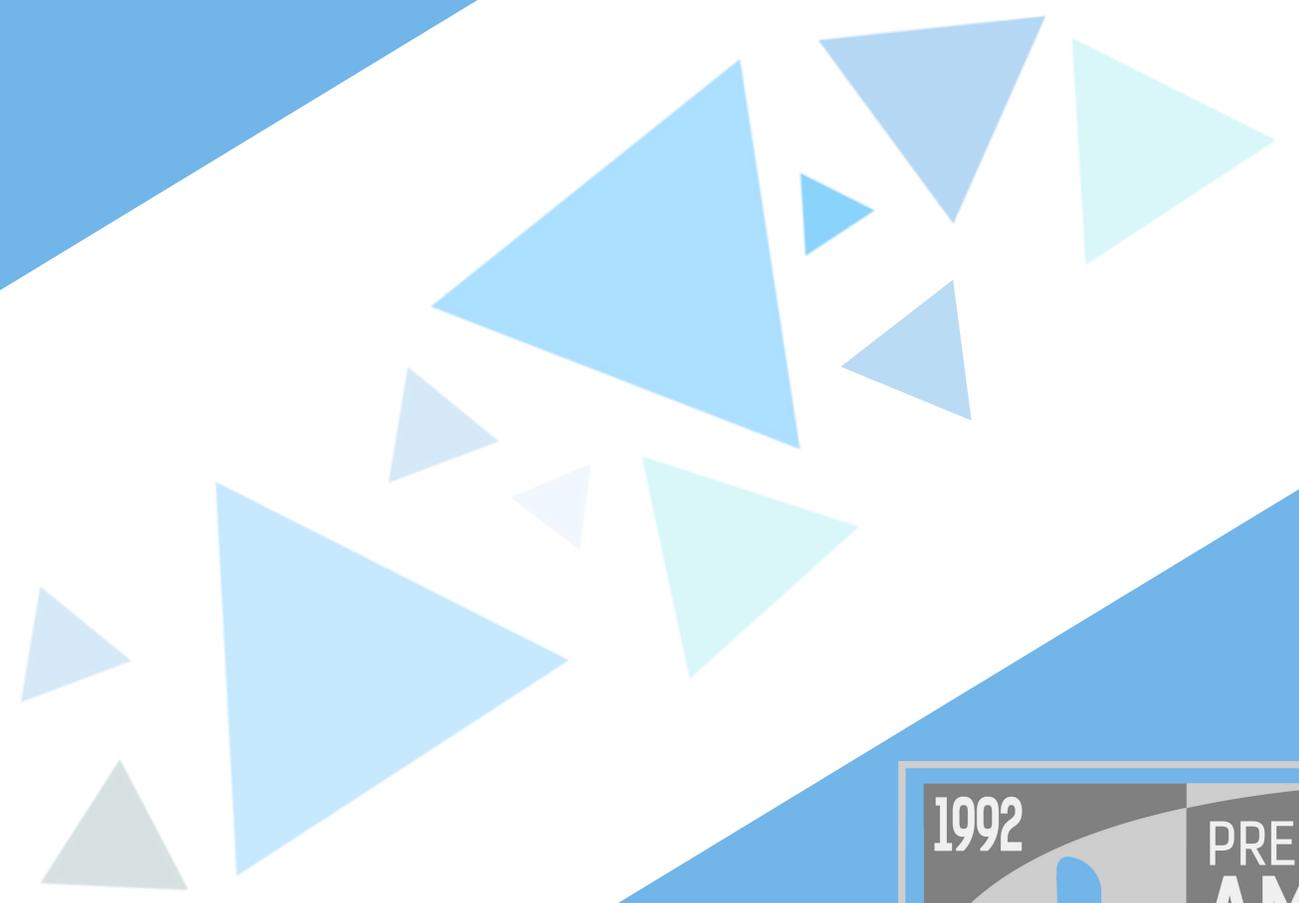


# THE PULSE

VOL. 12

MAR, 19, 2019



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Don't forget to follow our Spotify to help you get back in the study routine this Spring! You can access it here: <https://tinyurl.com/y9799egr>

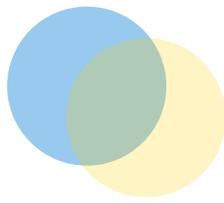
## EXECUTIVE BOARD

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# GUEST SPEAKER



## Dr. Uday Desai

Dr. Uday Desai has completed his Internal Medicine residency at Hurley Medical Center, Michigan State University, where he also served as a Chief Resident and Clinical Instructor. Dr. Desai has completed Nephrology Fellowship at University Hospital of Cleveland, CWRU and an additional year of UNOS approved Transplant Nephrology fellowship from Northwestern University, Chicago, Illinois. He specializes in internal Medicine, Nephrology and Hypertension, specialized in kidney and pancreas transplantation. He currently serves as Medical Director of the Pancreas Transplant Program and UNOS designated Transplant Nephrologist for the AHTP. He is a member of various medical associations including American Society of Transplantation and American Society of Nephrology. Dr. Desai sees patients pre and post-transplant to ensure proper healing is taking place.

## tip of the day

Boost brainpower by treating yourself to a couple pieces of dark chocolate. The flavanoids, caffeine, and theobromine in chocolate improve alertness and mental skills.



## have a tip?

submit your tips, stories, or recommend we write an article on one of your AMSA friends! Email us at [newsletter@premedamsa.com!](mailto:newsletter@premedamsa.com)



## Health News

### New Blood Test May Have The Potential to Reveal Genetic Markers of PTSD

Scientists at the Indiana University School of Medicine in Indianapolis suggest that their findings could lead to more accurate diagnoses of post-traumatic stress disorder (PTSD). Testing blood samples for the genetic markers could help to identify people who might be at risk for future traumatic stress. For their investigation, the researchers recruited and followed more than 250 veterans who were receiving treatment at the Indianapolis VA Medical Center. The 10-year study began with a robust series of steps to identify and then whittle down candidate genes to those that most precisely tracked stress levels. The team describes the steps as "discovery, prioritization, validation, and testing." By comparing blood samples of the veterans from when they were in high and low states of stress, the team was able to pinpoint which of the 20,000 or so genes in the human genome underwent the most significant changes in expression. By pursuing the stepwise method, the team was able to reduce the number of items of interest to 285 genetic markers associated with 269 genes. The researchers cross-checked with health records and psychiatric test results in independent groups within those enrolled in the study. The checks revealed that certain genetic markers "were predictive of high-stress states and of future psychiatric hospitalizations related to stress [...]." The investigators also compared the genetic markers with other markers of aging and stress, one of these including the length of telomeres.

Read more at: <https://tinyurl.com/yywc46su>

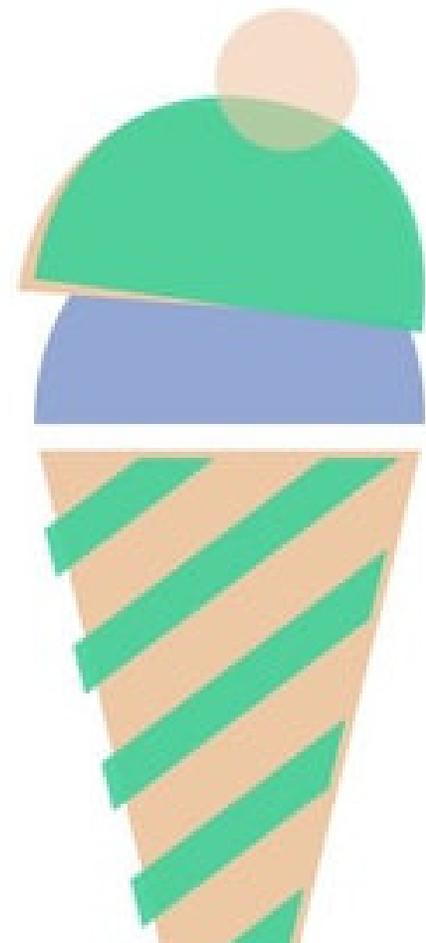
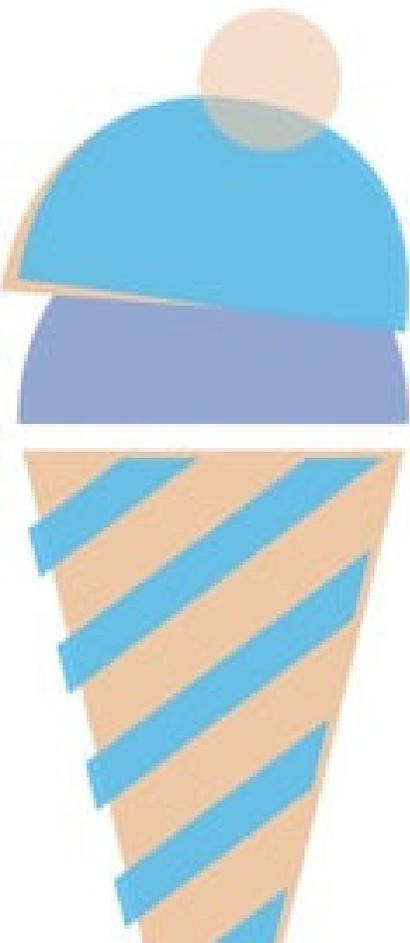


JOIN OUR KNIGHT THON TEAM AFTER THE  
GENERAL BODY FOR A

# Jeremiah's Partial Proceeds

Sweeten a child's day with every scoop!

3.19.19 | 5-11PM | JEREMIAH'S WATERFORD



# HIGHLIGHTED EVENTS

RSVP via Knight Connect is **REQUIRED** unless otherwise specified. Follow us on social media for more updates!



## Research Q&A Panel

3/20 - 6 PM - 7 PM | NSC 114

Come out and hear about what it takes to get involved in research from current graduate students and our awesome Research Directors! **AMSA Points: 3, +1 with AMSA shirt or Mentorship shirt**

## 5th Annual Letters of Recommendation Panel

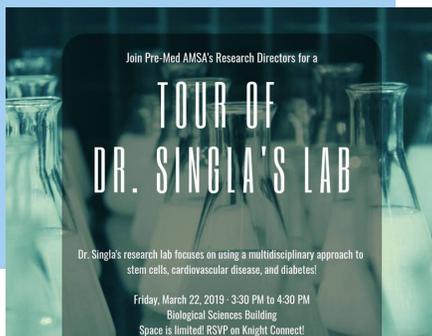
3/20 - 5 PM - 6:30 PM | HPA1 110

You will be able to ask questions and hear what they have to say about what type of letters you need and how you can go about requesting them. The letters packet they offer and obtaining Letters of Recommendation is an important topic amongst all pre-health students and we are here to help make it less intimidating. This event is three points, +1 with AMSA Gear.

OPEN TO ALL PRE-HEALTH STUDENTS!

### LETTERS OF RECOMMENDATION PANEL

Hear suggestions directly from your professors, learn how to approach letter writers & ask questions during the Q & A with panelists!



## Tour of Dr. Singla's Lab

3/22 - 3:30 PM - 4:30 PM | UCF Biological Science Building

Join us for a tour of Dr. Singla's lab, where Dr. Singla's research group focuses on using a multidisciplinary approach to stem cells, cardiovascular disease, and diabetes. Professional dress required. **AMSA Points: 3**

## Babysitting at Base Camp

3/23 - 5:30 PM - 10 PM

Help us give the parents of the kids at BASE Camp a night off! BASE Camp provides care for children in our community diagnosed with cancer and their siblings. Help us give the parents of the kids at BASE Camp a night off! BASE Camp provides care for children in our community diagnosed with cancer and their siblings. **AMSA Points: 6, +1 with AMSA shirt.**





UCF PRE-MED AMSA 2018-2019 MENTORSHIP



## **BOWLING SOCIAL**

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**STARTS AT 7PM / MUSIC / FOOD & DRINKS INCLUDED**

COME OUT AND INTERACT WITH OTHER MEMBERS OF THE  
PROGRAM

---

**SPONSORED BY THE MENTORSHIP  
PROGRAM**

**22**  
MARCH

10749 E COLONIAL DR,  
ORLANDO, FL 32817

**\$5**  
ENTRY

**Anishaa Sivakumar**  
Biomedical Sciences  
Third-Year



Anishaa Sivakumar currently works in Dr. Yoon-Seong Kim's Molecular Neuroscience Lab and is working on creating a novel Nanoluciferase-based toolkit to observe transcriptional mutagenesis. Dopaminergic neurons (such as those affected in Parkinson's Disease) are senescent, meaning they rarely divide, and rely heavily on transcriptional machinery for maintaining their activity. Their lab found that reactive oxygen species (ROS) could effect these transcriptional processes in a phenomenon known as transcriptional mutagenesis, where modifications to DNA generate mutations in the resulting mRNA not visible upon DNA sequencing. It is possible that this phenomenon plays a role in the generation of mutant proteins such as alpha-synuclein, a protein commonly found in the Lewy Bodies seen in PD. However, this phenomenon has not been observed as it occurs in vitro, limiting their ability to properly analyze it. Anishaa's work focuses on attempting to observe this process using a vector based toolkit containing Nanoluciferase, a luminescent protein that would essentially be turned "on" by the introduction of transcriptional mutations when exposed to ROS. Anishaa says that her favorite part about research is having the opportunity to constantly learn something new, and finding more questions than answers at every step. She's particularly found that experimental design is her favorite process, because when its done correctly, the pieces fall into place.

# Research Spotlight

## Virology

Virology is an important subfield of molecular biology which involves the understanding of viruses, viral particles and foreign systems that can cause harm to the host. Virologists study the the structure, genomic make up, and mechanism which viruses use to attack the host, to better understand and design treatments against them. Understanding the structure and make up of these disease-causing agents is crucial in developing treatment methods that are affective and specifically target the antigens without causing harm to the host. Researchers have been involved in an effective way to screen for Zika virus (ZIKV) in mosquitos. Previous techniques involved reverse transcription polymerase chain reaction (RT PCR). This method although very useful is expensive for point-of-care (POC). They developed a one -step method called LAMP (RT-LAMP) which resulted in higher accuracy and specificity for ZIKV. With the use of this inexpensive technique monitoring ZIKV and better control of the virus can be established in countries.

References: <https://www.nature.com/articles/s41598-019-40960-5>

## MCAT question of the DAY

What is one reason why Broadbents early selection theory is unable to account for the cocktail party effect?

- A - It does not take into account the need for there to be a sensory register involved in selective attention
- B - It only proposes selective filtration of sensory information
- C - It only succeeds in explaining divided attention.
- D - It proposes that complete filtration of sensory information takes place before the information is subjected to perceptual processes.

Submit your answer:

<https://goo.gl/forms/rHTRFoT6hgCnJ0EF3>

