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The Official Stevens Pre-Health Professionals Newsletter

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About Us



Alpha Epsilon Delta is a national health pre-professional honor society dedicated to recognizing and encouraging those committed to healthcare. The organization is both an honor society and a service organization. The NJ-Beta chapter of AED was established in 1992 at Stevens Institute of Technology and strives to organize events in terms of philanthropy, scholarship, and social causes with the goal of promoting the importance of healthcare on campus and throughout the Hoboken community. There are currently 17 members of the honor society, however many of our events are open to the rest of the Stevens community.

The Stevens Health Professions Club is a student-run organization devoted to providing educational support and opportunities for students interested in the healthcare field. We are a team of pre-medical, pre-dental, pre-veterinary, physical therapy, and biomedical engineering students. Our mission is to promote service, courage, integrity, and leadership as the health professionals of tomorrow.

CHANGE

I am delighted to see how our members are focusing and discussing current issues in this newsletter. Even though we are living in an age of information explosion and numerous ways of connectivity, virtual means of communication and meetings expanded due to the COVID-19 pandemic. Change was inevitable. Heraclitus of Ephesus, *ca.* 500 B.C., emphasized the constant change in nature where systems are in a state of perpetual flux. We are swiftly adapting to this change on many fronts and creating new ways which spark imagination! Thank you all who contributed to the first issue of this newsletter. We are looking forward to reading a unique article from every one of you in the following issues!

Dr. N. M. Kumbaraci, Associate Professor for Chemical Biology, Faculty Advisor for AED and SHPC

Ethical Concerns in Healthcare

Should we resuscitate COVID-19 patients?

By: Jeel Shah

Cardiopulmonary resuscitation, also known as CPR, is a technique performed on unresponsive patients without a pulse. COVID-19 is an airborne viral infection that causes the lungs to inflame and fill up with fluid. In severe cases, the lung loses its capacity to perform its respiratory function and exchange of oxygen and carbon dioxide, causing the patient to go into respiratory distress. Cardiac arrest immediately precedes respiratory distress, requiring resuscitation to revive the patient back to life. One of the biggest concerns growing in healthcare is whether COVID-19 patients should be resuscitated. The chances of a person fully recovering after a cardiac event requiring CPR are minimal. When doctors, nurses, and medical staff attempt to resuscitate a COVID-19 patient, they are exposed to a considerable amount of viral particles that can infect themselves and other providers. Another concern raised is the considerable amount of personal protective equipment (PPE), such as N95 masks, gloves, gowns, respirators, eye goggles, and shields, that is used for those who provide medical treatment to these patients, especially as the country is

facing a shortage of PPE. Lastly, there is an increased risk of cross contamination to other patients who are not infected by the COVID-19 virus.¹

According to the two out of four tenets of medical ethics, beneficence and non-maleficence, physicians are required to act in the patient's best interest and to do no harm, respectively. Even if a patient is infected by the COVID-19 virus: a patient is still a patient who needs justified treatment. To counter many of the conflicts raised, numerous proposals have been made to minimize the potential harm to healthcare providers and other patients. Some examples include increasing access to PPE and limiting the personnel providing resuscitation to these patients. Another proposal suggests the use of external compression devices, which provide automated compressions, a clear plastic sheet between the patient and provider, and a HEPA filter on the bag valve mask (BVM) to limit the exposure of viral aerosol particulates. Lastly, some experts recommend contacting the family to make

the decision and, if possible, provide palliative care.²

Currently, as of November 2020, there is not enough data available to make a conclusive statement about whether COVID-19 patients require resuscitation. Does a physician weigh the potential benefits and costs of one patient at a time or potential patients in the future? Who gets to draw the line between life and death? Is it more ethical to attempt resuscitation on a person with minimal chance of survival or to prevent healthy individuals (who can potentially infect others) from being infected by a deadly virus? If you were a physician, what would you do?

1. Defilippis, E. M., MD, Ranard, L. S., MD, & Berg, D. D., MD. (2020). Cardiopulmonary Resuscitation During the COVID-19 Pandemic. *Circulation*, 141(23), 1833-1835. [doi:10.1161/circulationaha.120.047260](https://doi.org/10.1161/circulationaha.120.047260)
2. Smith, T. M. (2020, May 26). Thinking twice about the rush to give CPR to COVID-19 patients. Retrieved October 30, 2020, from <https://www.ama-assn.org/delivering-care/ethics/thinking-twice-about-rush-give-cpr-covid-19-patients>.

CHECK OUT AED'S SCALPEL REPORT!

Click [here](#) and go to page 35 to read the New Jersey Beta Chapter of Alpha Epsilon Delta's Scalpel report. Learn more about the accomplishments of AED at Stevens this past semester.

FAQ ABOUT COVID-19



By: Faizah Chowdhury

WHAT IS COVID-19?

According to the CDC, COVID-19 is a viral respiratory illness for which there is currently no vaccine. The best way to prevent illness is to avoid being exposed to this virus.

HOW CAN I PREVENT MYSELF FROM GETTING COVID-19?

The CDC recommends taking these 6 steps:

1. Wash your hands regularly.
2. Maintain social distancing (minimum of 6 ft apart).
3. Wear a mask— and make sure it covers both your mouth and nose!
4. Cover your coughs and sneezes.
5. Clean and disinfect frequently touched surfaces daily.
6. Monitor your symptoms. If you are having symptoms of COVID, isolate yourself and follow the [CDC's guidelines](#).

Who will be on Stevens' campus during the Spring 2021 semester?

Undergraduate students on campus:

- First-year and transfer students who were eligible to be on campus for the Fall 2020 semester or are starting in the Spring 2021 semester
- Senior students who are graduating after Spring 2021 or after Summer 2021 semesters, as per an approved application for candidacy

New graduate students who matriculated in the Fall 2020 or Spring 2021 semesters

What will the Spring 2021 semester calendar look like?

- The first day of classes will be on February 1, 2021.
- No Spring Break! We will have days off on Monday, February 15, 2021 (President's Day), Wednesday, March 10, 2021, and Friday, April 2, 2021 (Good Friday). The last day of classes will be on Friday, May 7, 2021.
- The final exam period will be from Monday, May 10, 2021 to Wednesday, May 19, 2021.

Look out for more updates from Stevens on the [Return to Campus](#) page, and check out the updated [Academic Calendar](#).

Nobel Prize Winners of 2020

By: Jeel Shah

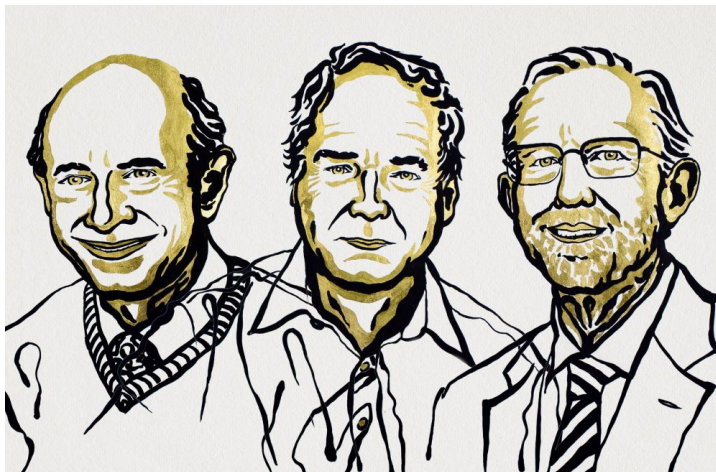
The 2020 Nobel Prize in Physiology or Medicine was awarded to Harvey J. Alter, Michael Houghton, and Charles M. Rice for the discovery of the hepatitis C virus. In contrast to hepatitis A and B, hepatitis C is blood-borne and, up until now, the cause of blood-borne hepatitis cases were unexplained. With the discovery of hepatitis C, proper tests and medicines can be administered. Blood-borne hepatitis is a major contributor to cirrhosis and liver cancer. Harvey J. Alter identified that an unknown virus was the cause of chronic hepatitis, while Michael Houghton isolated the genome of the unknown virus. Finally, Charles M. Rice contributed to the final puzzle by providing evidence that the unknown virus, hepatitis C, alone can cause hepatitis, or liver inflammation. ¹

Consequently, the 2020 Nobel Prize in Chemistry was awarded to Emmanuelle Charpentier and Jennifer A. Doudna for developing a method for genome editing, commonly known as CRISPR/Cas9 genetic scissors. The CRISPR/Cas9 tool is used to edit the genome by altering the DNA sequences and modifying the gene expression. In 2011, Emmanuelle Charpentier discovered a previously unknown molecule called tracrRNA, which can cleave DNA. This molecule comes from a bacterial species that is most dangerous to humans, called *Streptococcus pyogenes*. She collaborated with Jennifer A. Doudna to develop the CRISPR/Cas9 gene editing scissors that we know today. ²

1. The Nobel Prize in Physiology or Medicine 2020. NobelPrize.org. Nobel Media AB 2020. Mon. 2 Nov 2020.

<https://www.nobelprize.org/prizes/medicine/2020/summary/>

2. The Nobel Prize in Chemistry 2020. NobelPrize.org. Nobel Media AB 2020. Mon. 2 Nov 2020. <https://www.nobelprize.org/prizes/chemistry/2020/press-release/>



© Nobel Media. Ill. Niklas Elmehed. Portraits of Harvey J. Alter, Michael Houghton, Charles M. Rice.

TIPS OF SUCCESS:



Dr. Patricia Muisener

Position:

Associate Teaching Professor and Associate Chair of the Department of Chemistry and Chemical Biology

- "It is important to find activities that define and distinguish you and allow you to create your own story. What do you excel at and that you enjoy?

- "Getting to know and establishing relationships with your faculty members is critical. When is it time to request letters, you want to be able to contact your faculty members (2 science/engineering and 1 humanities/business and request letters that truly represent you and showcase your strengths and talents."



NUANCES OF A MEDICAL SCHOOL APPLICATION

By: Milena Sudarikov

Should your medical history affect your medical school applications? What if that history included mental illness? Though there are no guidelines for a medical school application, the advice given by doctors and previous applicants is to bypass any information about mental illness for it may be seen as a red flag. Why is there still a mental stigma in these applications?

A medical school Director of Admissions explains the issue of mental illness on applications:

“When something comes across their desk, if it’s prior drug use, alcohol use, or mental illness, they have to think about “what if,” or it’s irresponsible not to. The first thing is safety. The second thing is whether other students are going to be safe.”²

It is actually illegal for application forms to ask about a history of mental illness. The PACER, a center for children with disabilities, writes about the Americans with Disabilities Act (ADA) and says:

“Institutions may impose criteria that relate to safety risks but these criteria must be based on actual risks and not on stereotypes or assumptions.”¹

Furthermore, an institution cannot treat a student with a disability any differently because of a belief of an insurance risk.

When it comes to writing your application, if you wish to add information about mental illness, the general consensus is to omit this. You risk the possibility of being viewed as an increased insurance cost even though this is illegal. There is no need to explain how terrible this is. However, some student threads encourage others to write about mental illness if there is a story with overcoming the difficulties attached to them. There is no clear cut way to write an application, but be wary when writing about mental illness.

1. “The ADA, Section 504 & Postsecondary Education.” PACER.org/Transition, PACER Center, Inc. , 2015, www.pacer.org/transition/resource-library/publications/NPC-42.pdf.
2. Ignoring Advice, He Disclosed His Bipolar Disorder in Apps. 1 June 2020, medicalschoollhq.net/pmy-295-ignoring-advice-he-disclosed-his-bipolar-disorder-in-apps/.

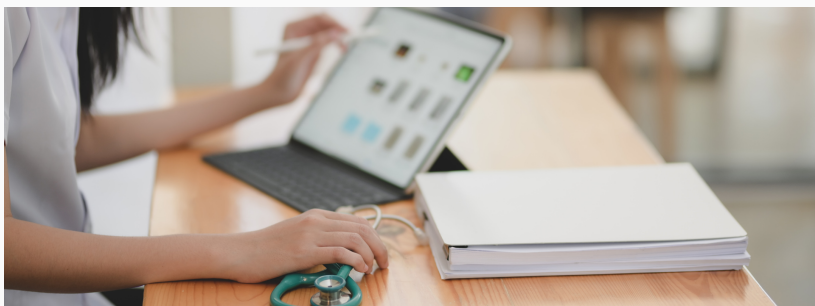




Telemedicine

By: Kesha Shah and Va'Shayna Williams

Telemedicine has extended the frontiers of healthcare by providing patients with the opportunity to have efficient, COVID-friendly, and easy accessible care. Telemedicine is the “practice of medicine using technology to deliver care at a distance.” It allows physicians to provide patient care and services while minimizing physical contact exposure. It has expanded by including smartphone-use and audio-only communication in order to accommodate as many patients and their circumstances as possible. Although used prior to the pandemic, telemedicine has significantly increased in use. It enables individuals who are high-risk to still receive medical attention from their primary care physician without exposing themselves. Telemedicine also reduces costs, making routine visits more accessible to those who were unable to afford it.



Telehealth also offers the added benefit of increasing a patient’s pool of resources. Patients have the ability to connect remotely with specialists no matter where they are located. With the increased need for telehealth, policies have expanded, such as lifting the restrictions of those on Medicare. As a whole, the medical industry has shifted to accommodate increased healthcare access via telemedicine. ¹

While increasing access to primary care and urgent care has its benefits, there are still concerns on what the rise of telemedicine may impose on the healthcare field. Of course, the most obvious downside to telemedicine is the lack of in-person assessments. Although a patient may still have to go to the doctor’s office in person, the frequent use of telemedicine means that there will be an overall lower risk of contagion. ²

The use of telemedicine will undoubtedly increase as the world learns to accommodate to a more virtual world. It may not be a perfect solution, but it does offer more accessible medical care to a greater population.

1. Strazewski, Len. Telehealth's Post-Pandemic Future: Where Do We Go from Here? 7 Sept. 2020, www.ama-assn.org/practice-management/digital/telehealth-s-post-pandemic-future-where-do-we-go-here.
2. “What's the Difference between Telemedicine and Telehealth?” AAFP Home, American Academy of Family Physicians, www.aafp.org/news/media-center/kits/telemedicine-and-telehealth.html.

STUDENT HIGHLIGHT



KYRIAKOS CHATZIS

Major: Biology
Graduating Year: 2022

Over the duration of quarantine I actively sought out ways to be of help during these unprecedented times. During my search I realized that the immigrant community, especially in New York, was devastatingly being overlooked. This is why I started Community Cares NY, which is a registered 501(c)(3) Non-Profit that is aimed to aid immigrant families impacted by COVID-19 in and around NYC. At the height of the pandemic when all businesses were close, most immigrants were not able to work, nor were they eligible to receive unemployment from the government for many number of reasons. Because of this, CCNY would distribute care packages full of essential goods to aid these populations. To date, CCNY has distributed over 2,000 care packages across 3 major cities in NY & NJ.



communitycaresny.com
[@communitycaresny](https://twitter.com/communitycaresny)



UPCOMING EVENTS

From Alpha Epsilon Delta & Stevens Health Professions Club



BEHIND THE SCENES OF AN EMT

Wednesday, November 17th, 2020
3:00 p.m. EST

Join SHPC on a virtual tour of an ambulance corps and what an EMT uses on the job.

AED General Body Meeting
Monday, November 23rd, 2020
3:00 p.m. EST

SHPC General Body Meeting
Day & time to be determined.

"Have any healthcare related topics you are interested in or passionate about?"

If you want to submit a piece for our next newsletter or if you know of a student who deserves a shout out in our Student Highlight, please contact us at duckmedicine@gmail.com!

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AAMC Updates

By: Faizah Chowdhury

The COVID-19 pandemic has brought about many changes in the AAMC's MCAT and Medical School Application procedures for 2021. Some of the most important updates from AAMC include:

MCAT Updates:

- Registration for testing in 2021 began on November 10, 2020 at 12 p.m. EST, while pre-registration began earlier on November 2, 2020 at 12 p.m. EST.
- MCAT rescheduling fees will be waived to accommodate students' preparation and health and safety needs.
- Access to the MCAT Official Prep products are extended through September 30, 2021 for all examinees who had their exams canceled due to COVID-19 and did not reschedule an appointment in the 2020 testing year. The extension applies to products that would have otherwise expired between March 11, 2020 and September 29, 2021.
- MCAT Exams in the 2021 testing year will be back to their original full-length.
 - Two full-length exam sessions will be held for each test date at 7:30 a.m. and 3 p.m.
 - MCAT scores will be reported within 30 to 35 days after the test date.

Medical School Application Updates:

- The processing timeline for transcripts have changed. For transcripts sent via electronic vendor, email, or fax, processing will take about 15 business days. For transcripts sent by mail, processing will take about 25 business days. Transcripts must be sent by your school's registrar only!
- The 2021 cycle Early Decision Program deadline is Monday, August 3, 2021.

Visit the [AAMC](https://www.aamc.org) website for more information on the MCAT test and the AMCAS Applications!