



# HSA Times

Chino Hills High School held its annual commemoration day ceremony for student-athletes receiving scholarships. Pictured Left: Darren Lin, an HSA scholar and a golf prodigy, is one of those student-athletes being honored by CHHS.

Photo provided by Ms. Hughes (HSA Counselor).

## **Hole In One: Yale** by Isabella Panagiotou and Courtney Price (both are 11<sup>th</sup> Grade Students)

An academy's worth can only be measured by the excellence of its students and their achievements. Darren Lin, one of the Health Science Academy's very own students, has been accepted at one of the most prestigious universities in the nation: Yale. Upon interviewing him, we discovered how his passion in golf opened up such an opportunity for him, and discussed his advice for what other HSA students can do to make themselves more competitive college applicants.

Yale is known for being academically rigorous and having exceedingly high standards for the students they choose to admit. Darren is no exception, having scored a 1440 on his SAT. To get this score, Darren went to Elite, an SAT "boot camp," over the summer. This program helped him become familiar with the SAT format and taught him multiple strategies to boost his score. Not only did he perform well on his SAT, but he also earned a weighted GPA of 4.3 from 10<sup>th</sup> to 12<sup>th</sup> grade.

Although his grades and test scores are formidable, Darren placed emphasis upon his extracurricular activities:

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Page 6: Science Fair (Audry and Wynn); Hole in One continued; HSA'S Senior MVPs of 2018

**Guest Reporters: Riley Davis, (THANK YOU Riley- inputed the lion's share of articles this year), Mitwa Joshi, Bryan Lee, Ryan Lo, Isabella Panagiotou, Katie Pham, and Courtney Price.**

**Guest Photographers: Christopher Buenrostro, Ms. Hughes, Mitwa Joshi, Bryan Lee, Katie Pham, Brendyn Ponce, Andrea Rizo and Ms. Tasanont.**

**Guest Editors: HSA's Lunchtime Tutors.**

**Newsletter Advisor: Neil Murphy.**

# *Secrets to Gel Electrophoresis (10th Grade Human Body Systems Class)*

by **Bryan Lee and Katie Pham** Photos by **Bryan Lee and Katie Pham**

On November 27, 2017, students in Mrs. Tasanont's second period HSA Human Bodies Systems class performed gel electrophoresis. Mrs. Tasanont hopes "that students would be more familiar with biotechnology [and]... certain techniques that they need to have" in careers such as forensic anthropology to find the suspects in a crime-scene investigation. Before beginning the experiment, students did a pre lab using the micropipette, a device used for measuring, transferring and injecting various liquids, by transferring dye onto templates containing circles of varying sizes. Jackie, a Human Body Systems student, found that hands-on-learning "makes it a lot easier to understand [and]... comprehend what's going on."

After practicing with the micropipette, students practiced injecting dyed water into a gel cup with premade, rectangular indentations, similar to the gel mold that would later be used in their final experiment. Nina, another student, learned "that scientists must have a really steady hand when... putting in the DNA and be careful [as] this process is very time consuming..." For their final experiment, Mrs. Tasanont "...chose the 'miniOne' equipment; so that, we [the class] could run the gel in an hour," which contained a micropipette, agarose GreenGel in-a-Cup, a diluted TBE (Tris/Borate/EDTA) running buffer, a gel casting system and a simpler version of the traditional electrophoresis running tank. To set up the experiment, students microwaved the refrigerated, premade gel cups for 30 seconds to turn it into a liquid form before pouring the melted gel into a clear, rectangular mold. To create the rectangular holes in the gel, students inserted a comb that had six prongs on one side of the mold while it was in liquid form. While the gel cooled, students poured out 350 milliliters of a pre-made buffer into a beaker and plugged in their electrophoresis running tank. After waiting ten minutes for the gel to solidify, students took out their thermo scientific comb that they inserted previously to reveal six small, rectangular holes. Students then eagerly and meticulously placed their

solidified gel mold into the electrophoresis running tank and poured the 350 milliliters buffer into the container to cover the top layer of the gel. After that, they injected ten milliliters of six different types of mixtures of DNA samples and dyes into the rectangular indentations created by the comb, carefully closed the top of the electrophoresis tank, and turned the tank on for twenty minutes. With their smartphones, students took pictures and interpreted the results by observing how far each sample traveled through the gel.

By doing this experiment, Jackie, as well as other students, found interest learning "about something that was [a] real world problem... that could relate to a career later on."



Ms. Tasanont demonstrates step by step on how a micropipette is set up and used.

Ayesha Karim uses a micropipette to insert viable DNA samples into the colorful gel.



Ekene, Andy, Zach and Jerrid finish the final preparations before the electrophoresis tank is turned on.



## Francis Ngo's Pearls of Wisdom

by Ryan  
Lo (9<sup>th</sup>)

During her time at Chino Hills High School, Frances Ngo was an exemplary student; she managed to balance her studies with many extracurricular activities. She is currently a junior at the University of Wyoming, majoring in zoology and minoring in painting. Mr. Murphy asked her to return to give a presentation to his students regarding the steps that should be taken to ensure academic success. So on January sixth, 2018, Frances gave a presentation in room 232 to Mr. Murphy's first three periods. After giving muffins to her audience to secure their full attention, she dove right in. Many of Frances' ventures make her more than qualified to give advice on academics. She, along with other people who loved wildlife, helped spread awareness for wildlife, by starting a club called P.A.W.W. (People for Animals and Wildlife Welfare). During the presentation, she emphasized exploring different fields of study and broadening our horizons. She discovered her true passion for animals after participating in an internship at the Los Angeles Zoo. A school bulletin board is where Frances found the opportunity to study birds abroad in Ecuador. This was a remarkable experience for her (even though she almost got struck by lightning there). Her various internships have led to some curious anecdotes. However, her experiences didn't stop there. Once in college, she took part in a zoological exercise by helping a graduate student capture and study pocket gophers in the Wyoming Red Desert. To add to the impressive experiences, she completed two more summer interdisciplinary internships.

Frances gave students advice on the most pressing academic decision as a high school student can make: how to choose a college. She spotlighted criteria students should be aware of when choosing a college, including tuition,

## Photos by Andrea Rizo (9<sup>th</sup>)

location and student demographics In relation to cost, Frances said that attending an out-of-state college is usually more expensive than attending an in-state college, but not in her case. Clubs, partner facilities, finances and opportunities for undergrads are important to pay attention to when choosing a school as well. Throughout the presentation, Frances provided URL's to helpful resources students can use. These web resources included college information, personal research experiences, and a link to a conservation union if anyone wanted to follow Frances' path.

Many of the students greatly appreciated the presentation as it helped them navigate their way to and through college. When it came to what students appreciated the most, many chose how Frances highlighted the importance of internships and how to obtain them. "[She was] explaining how to choose a college and taking advantage of internships [and it was useful]," said Belinda Ocegueda from third period. Nathan Han agrees with the importance of internships: "Importance of internships and how and when to get them." One student expressed his gratitude for Frances' presentation. Ivan Avila commented "I appreciated the fact that she came out on her own time to give us this presentation."

Frances was also interviewed over her presentation. "The slides were assembled over the course of three days" responded Frances. She wanted students to "know that it's alright to be uncertain when asked, 'What do you want to be.' However, it helps to be selective about where one spends his/her time...Beyond that [high school,] is a way to fulfill personal goals, explore interests, and contribute to communities and causes." Overall, Frances' presentation was well put together and gave insight to Mr. Murphy's students.



## HSA SENIORS: EMBARKING ON A NEW CHAPTER IN THEIR LIVES

**Brian Aneke:** Cal State Fullerton  
(Undeclared)

**Kaitlyn Arias:** CSU San Bernardino (Nursing)

**Edna Arreola:** Azusa Pacific University (Biology)

**Christian Avila:** UC Riverside (Neurobiology)

**Joshua Bae:** UC Berkeley (Chemical Engineering)

**Ashley Bahena:** Community College (Undeclared)

**Matthew Banaticla:** UC Riverside (Biology)

**Michael Banta:** University of San Diego (Biology)

**Cameron Barbin:** Arizona State University (Sports and Media)

**Nicole Boyd:** UC Davis (Animal Science)

**Dylan Blue:** Chaffey College (Undeclared)

**Blake Campbell:** Chaffey College (Aviation)

**Brenda Castro Soto:** Mt. San Antonio College (Forensic, Criminal Justice)

**Jeanette Choi:** Vanderbilt University (Medicine, Health, & Society)

**Skylar Cooney:** Fullerton College (Communication Disorder)

**Rachel Cowan:** Biola University (Psychology)

**Riley Davis:** Southern Utah University (Human Nutrition)

**Cerena DeLaTorre:** UC Santa Cruz (Marine Biology)

**Kaylee DeMarchi:** University of La Verne (Biology)

**Akeila Dougan:** Azusa Pacific University (Psychology)

**Natalie Dukes:** California Baptist University (Undeclared)

**Carol Esparragoza:** Cal State (Mechanical Engineering)

**Ian Esparza:** Cal Poly Pomona (Sociology-Criminology)

**Susana Espinosa:** Grand Canyon University (Nursing)

**Scott Foreman:** Chapman University (Biology)

**Yesenia Galarza-Hernandez:** California Baptist University (Nursing)

**Malia Garcia:** Cal Poly Pomona (Animal Science)

**Madison Grace:** California Baptist University (Nursing)

**Rachel Hanlon:** Norco College (Early Childhood Education)

**Anthony Henkes:** UC Riverside (Neurobiology)

**Derek Kutsunai:** Cal State Long Beach (Undeclared)

**Darren Lin:** Yale University (Undeclared)

**Kevin Linsangan:** Cal State San Bernardino (Biology)

**Marina Llamas:** Cal Poly Pomona (Psychology)

**Alexis Lopez:** Cal Poly Pomona (Psychology)

**Sergio Lozano:** US Navy

**Jerry McDonald:** UC Irvine (Undeclared)

**Alexis Medina:** La Sierra University (Nursing)

**Ansleigh Mendoza:** California Baptist University (Nursing)

**Lucas Mercado:** UC Irvine (Biological Sciences)

**Phoebe Moore:** UC Irvine (Criminology, Law, and Society)

**Isabel Munoz:** Mt. San Antonio College (Nursing)

**Mallory Myers:** Sonoma State University (Psychology)

**Marcus Oddie:** Ottawa University; Surprise Campus (Biology)

**Alexis Robison:** Cal Poly Pomona (Kinesiology)

**Camille Salamat:** California Baptist University (Nursing)

**Delanie Salerno:** Brigham Young University-Idaho (Nursing)

**Natalie Salerno:** Brigham Young University (Nursing)

**Stephanie Sanchez:** California Baptist University (Pre-Nursing)

**Megan Schneider:** CSU San Marcos (Criminal Justice)

**Tanner Schroeder:** Mt. San Antonio College (Psychology)

**Nicole Seelert:** Cal Baptist University (Nursing)

**Joshua Stroup:** Cal Poly Pomona (Business Marketing)

**Rachele Sunagawa:** UC Davis (Biological Sciences)

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## HSA Seniors: Embarking on a New Chapter, Page 4

**Quinten Uekert:** Grand Canyon University (Computer Science & Business)

**Mark Uy:** UC Riverside (Biology)

**Kerragan Velasquez:** Grand Canyon University (Nursing)

**Amanda Zabriskie:** UC Santa Barbara (Undeclared)

**Noah Zappala:** University of San Diego (Business Administration)

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## Healing Bodies and Minds

On February 8<sup>th</sup>, 2018, some Freshmen HSA students had the opportunity to visit the pristine facilities of Casa Colina. While at the hospital and rehabilitation center, HSA students were able to listen to the CEO of the hospital as he gave a keynote presentation about what it is like to work in a hospital center of this caliber.

After the presentation, students were able to meet with various healthcare professionals in a series of round table discussions: nurses, physical therapists, occupational therapists, audiologists, speech therapists, respiratory therapists, radiologists, etc. During these informative round table discussions, students were able to learn about the requirements for the aforementioned medical professions and also some soft work-based and medical skills students would need in order to be successful in the various medical professions at Casa Colina.



Freshmen students pose for a group picture in the quad area of Casa Colina as they patiently wait for the tour of its pristine and cutting-edge facilities to begin. Photo by Chris Buenrostro (9<sup>th</sup> grade student)



Pictured above is a mural of California's people and landscapes; the mural also depicts Dr. Loverso's (CEO of Casa Colina) artistic vision.



Students were able to visit the children's rehabilitation areas, which consisted of various therapeutic playrooms.



Here is one of the round table discussions with a registered nurse. Students were able to pick up career information.



At the respiratory therapy table, students were able to interact with a medical respiratory dummy.

Pictorial Article by Riley Davis (12<sup>th</sup> grade student). Photographers: Brendyn Ponce and Christopher Buenrostro (9<sup>th</sup> grade students). Christopher snapped most of the pictures.

### Young Biologists Plant a New Seed by Audrey Sogata and Wynn Phaychanpheng



Audrey Sogata (left) and Wynn Phaychanpheng (right) holding their first-place trophy with CVUSD Board member, James Na, at the District Science Fair.



Wynn and Audrey, posing with their second place medals, along with the judges, stand in recognition at the California Science and Engineering Fair awards ceremony in L.A.



From left to right: Leonardo Park (11<sup>th</sup> grade), Audrey Sogata (9<sup>th</sup> grade), Wynn Phaychanpheng (9<sup>th</sup> grade), and the duo from Wickman Elementary.

Our project, entitled, “The Effects of Abscisic Acid on Growth of Unstressed and Stressed *Brassica Rapa*,” studies the impact of a plant hormone Abscisic Acid on a fast-growing mustard species. We found that application of this hormone decreases amount of water needed for water-stressed plants ([CONT. below](#))

### Hole In One: Yale continued from Page One

“One really important aspect is to not focus solely on school, so you want to get involved in a lot of clubs, volunteer work and extracurriculars.” He volunteers to coach and give lessons to young children who are beginning to play golf. However, his own golf career is what has opened up the most doors for him. Rather than being a normal applicant, Darrin was recruited to play golf at Yale. He had played very well the summer of his junior year and gained the attention of a coach from Yale who eventually recruited him.

Once at Yale, he plans to study Molecular, Cellular and Developmental Biology. However, his interest in the sciences is not newfound – he joined the HSA Academy as a freshman to begin pursuing a path in medicine. He stated that he “enjoyed how courses in HSA are set up [so that one can] get more exposure to the science courses.” He appreciates the Academy for the opportunities it provided him to strengthen his love and understanding of the sciences. He hopes that this love will fuel his journey to becoming a future Yale graduate and doctor.

### YOUNG BIOLOGISTS PLANT A NEW SEED cont.

to effloresce, thus, improving drought tolerance. Farmers and agriculturalists can easily use this cost-effective, easy-accessible hormone on their crops to both

help the environment and protect the quality of crop. Our scientific findings can help revolutionize the field of agriculture and food production around the world.

### HSA’s MVPs and MVP Finalists



Pictured from left to right: Anthony Henkes, Nicole Boyd, Jeanette Choi and Lucas Mercado.  
**Jeanette Choi (MVP):** HSA Club President and interned at CVMC and Atlas Health Clinic.  
**Anthony Henkes (MVP):** HSA 12<sup>th</sup> Grade Club Ambassador and interned at Loma Linda.  
**Nicole Boyd (MVP Finalist):** Interned at Loving Hands and Priceless Pets.  
**Lucas Mercado (MVP Finalist):** HSA teachers stated that Lucas provided his classmates with many insights.  
[Photo and Captions by Mitwa Joshi \(10<sup>th</sup> grade\)](#)