

# ► Tanishq M. Abraham

1<sup>st</sup> Year PhD Student Biomedical Engineering

UC Davis

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## Objectives

As a 7-year-old when I took my first college course in a junior college, I just wanted to delve deeper into the subject and learn more scientific ideas. From then on, I proceeded to take more college classes simultaneously with high school courses. By 10 years old, I graduated high school and my objectives changed then. I wanted to graduate from my junior college and transfer to a university at the earliest so I could get my hands on research. Being passionate about medical and engineering fields, I decided I would pursue a multi-disciplinary field like biomedical engineering for my undergraduate degree. At 12 years old after being accepted to UC Davis, I was happy to get the opportunity to work as an undergrad research intern at Prof. Tan's lab. Upon completion of my undergraduate degree in biomedical engineering, I began my PhD program in biomedical engineering at UC Davis in Fall 2018.

## Education

### High School

Diploma (2014) – 4.0 GPA

### Degrees

AS – General Science (May 2015) -4.0 GPA

AS – Math & Physical Sciences (May 2015) -4.0 GPA

AA – Language Studies (May 2015) – 4.0 GPA

BS – Biomedical Engineering (June 2018) – 3.94 GPA (summa cum laude)

## Technical Skills

1. Computer skills/programming – Python, C, Arduino, Raspberry Pi, MATLAB, HTML, Machine Learning, CAD (Solidworks), ImageJ
2. Lab skills – PCR, Gel Electrophoresis, Bacterial Transformation, Artificial Cell synthesis, Microscopy

## Research Projects Presented

1. Oral Presentation – West Coast Biological Sciences Undergraduate Research Conference, Santa Clara University, April 2017 (Awarded Honorable Mention Award for Oral talk)
2. Oral Presentation – UC Davis Undergraduate Research Conference, April 2017
3. Poster Presentation – UC Systemwide Bioengineering Symposium, UCLA, June 2017 (Presented UC Systemwide Undergrad Diversity Travel Award)
4. Oral Presentation – Biomedical Engineering Society Annual Meeting, Phoenix, AZ, October 2017
5. Invited Literature Review Paper – *"Engineering approaches of smart, bio-inspired vesicles for biomedical applications"* by Abraham, Tanishq; Mao, Michelle; Tan, Cheemeng, Physical Biology Journal (*published online July 2018, November 2018 issue*)
6. Oral Presentation – "CardioVision: Non-Contact Heart Monitoring of Burn Patients" – UC Davis Biomedical Engineering Senior Design Symposium (Award "Best Clinical Impact" Award for Oral Presentation)
7. Oral Presentation – "CardioVision: Non-Contact Heart Monitoring of Burn Patients" presented at UC Davis Pathology Grand Rounds, June 2018
8. Oral Presentation – "CardioVision: Non-Contact Heart Monitoring of Burn Patients" - UC Systemwide Bioengineering Symposium, UC Riverside, June 2018
9. Poster Presentation – Biomedical Engineering Society Annual Meeting, Phoenix, AZ, October 2018

## Curricular Awards / Scholarships

1. 2015 Phi Theta Kappa All-California Academic Team Award by Community College League
2. 2016 UC Santa Cruz Regent Scholar Awardee
3. 2016 UC Davis Cal Aggie Alumni Scholarship
4. 2016-2018 UC Davis Honors Scholar
5. 2016-2017 UC Davis Undergrad Scholarship
6. Dean's List – Fall 2016 (GPA-4.0)-College of Agriculture & Environmental Sciences, UCD
7. Dean's List – Winter 2017 (GPA -4.0)- College of Engineering, UCD
8. Dean's List – Spring 2017 (GPA-3.98) –College of Engineering, UCD
9. UCD Undergrad Travel Award – Spring 2017
10. 2017-2018 UC Davis Undergrad Scholarship
11. Dean's List – Fall 2017 (GPA-3.98) –College of Engineering, UCD
12. Dean's List – Winter 2018 (GPA-3.93) –College of Engineering, UCD
13. Dean's List – Spring 2018 (GPA-3.94) –College of Engineering, UCD
14. 2018 UC Davis Dean's Distinguished Graduate Fellowship

## Honors and Awards

15. Student Senate Resolution- resolution in recognition of inspiring other college students- American River College, Sacramento, CA- ( 8 yrs. old)
16. NASA Special Mention Award Certificate – Poster presentation & oral talk –category high school & undergrad students –Lunar Science Forum, NASA Ames – (8 yrs. old)
17. California State Senate Resolution – resolution for contributions to society & young achievements by a 10 year old, from Senator Darell Steinberg, Sacramento, CA
18. White House US Presidential Congratulatory letter from Pres. Barack Obama – for being a young high school graduate at 10 years old
19. White House US Presidential Congratulatory letter from Pres. Barack Obama – for being a young college graduate at 11 years old

## Membership in Honor Societies/ Clubs

1. American Mensa - (2007-current)
2. Davidson Young Scholar (2009 -current )
3. Phi Theta Kappa -International Honor Society for 2-year colleges - (2012-2015)
4. Founding Vice President, Astronomy & Physics Club, American River College, Sacramento, CA (2012 to 2013)
5. Vice President (Re-elected) Astronomy & Physics Club, American River College, Sacramento, CA (2013 to 2014)
6. Vice President of Communications, Phi Theta Kappa, American River College, Sacramento, CA (2013 to 2014 )
7. Vice President of Communications (Re-elected), Phi Theta Kappa, American River College, Sacramento, CA (2014 to 2015)
8. Biomedical Engineering Society (2016- current)
9. Public Relations officer- Synthetic Biology Club, UC Davis (2016-2017)
10. Tau Beta Pi – National Engineering Honor Society (2018)
11. Phi Kappa Phi – National Higher Education Honor Society (2018)
12. Phi Beta Kappa – National Arts and Science Honor Society (2018)

## National & International Talks delivered

1. Poster presentation & oral talk – Lunar Science Forum, NASA Ames, CA, (8 yrs. old)
2. Special Guest Speaker, Earth Day 2012- Department of Toxic Substance Control, Sacramento, CA (8 yrs. old)
3. Invited speaker/panelist for SXSW Interactive Conference, Austin, TX- ( 9 yrs. old)
4. Invited speaker for inaugural video- 10th World Skoll Forum, Oxford, UK (9 yrs. old)
5. Special Guest Speaker, Earth Day 2013- Department of Toxic Substance Control, Sacramento, CA (9 yrs. old)
6. TEDx Speaker, TEDxSacramento, CA – (9 yrs. old)
7. Invited speaker at '7 Days of Genius', 92 Y organization, NYC, NY – (10 yrs. old)
8. Invited Speaker at International Children's Book Festival, Sharjah, UAE (12 yrs. old)
9. TEDx Speaker , TEDxYouth , Folsom, CA (13 yrs. old)

### Volunteering & Fundraisers

1. Teachers aid/help – As a 8 year old helped KG teacher & class - assist in workshop tables & teaching KG students - 2011 to 2012
2. UNICEF Trick-or-Treat – raised \$500 - 2010 & 2011
3. North South Foundation – raised \$500 scholarship fund for underprivileged college students in India- 2011
4. Citizen Scientist – At 8 years old, participated in Zooniverse, an on-line citizen science program – helped discover exoplanet candidate, solar storm and supernovae – 2011 to 2012

### Extracurricular Activities

1. Chorister - San Francisco Boys Chorus- performed at 8 concerts, National Anthem for San Francisco Giants & Oakland As - Sept 2011 to June 2014
2. Piano classes – recitals from 3 years old, concerts & competitions, state exams – 2006-07, 2009, 2010-11
3. Swim lessons – Level 10 graduate- 2010 to 2015
4. Other sports activities – intermittent classes in soccer, tennis, table tennis and golf
5. Church activities – 2008 to current
6. Photography – architecture, nature, astronomy