



---

SANTA CLARA UNIVERSITY  
SCHOOL OF ENGINEERING

---

# 2020 Senior Design Conference Session Winners



---

SANTA CLARA UNIVERSITY  
SCHOOL OF ENGINEERING

---

**Senior Design Presentation Award**  
**Bioengineering Session 1:**

*Optical Strain Sensor for Physical Activity Assessment*

**Michael Cromie**  
**Kristen Mosher**

**Advisor: Emre Araci**



---

SANTA CLARA UNIVERSITY  
SCHOOL OF ENGINEERING

---

**Senior Design Presentation Award**  
**Bioengineering Session 2:**

***Milkguard from Assay to Kit:  
Sensor Geometry Optimization***

**Emily Brogan**  
**Ariana Haddad**  
**Bridget Woody**

**Advisors: Ashley Kim, Maryam Mobed-Miremadi**



---

SANTA CLARA UNIVERSITY  
SCHOOL OF ENGINEERING

---

**Senior Design Presentation Award**  
**Bioengineering Session 3:**

***Engineering a Switchable Nanosystem for Customizable  
Therapeutics***

**Hanzhe Chen**  
**David Diebold**

**Advisor: Bill Lu**



---

SANTA CLARA UNIVERSITY  
SCHOOL OF ENGINEERING

---

**Senior Design Presentation Award**  
**Civil Environmental, and Sustainable Engineering Session 1:**

***SCU Faculty and Staff Affordable Housing Development***

**Deirdre Bonitz**  
**Rachael Han**  
**Ayo Ogunfunmi**  
**Spencer Saito**

**Advisors: Laura Doyle, Edwin Maurer, Hisham Said, Reynaud Serrette**



---

SANTA CLARA UNIVERSITY  
SCHOOL OF ENGINEERING

---

**Senior Design Presentation Award**  
**Civil, Environmental, and Sustainable Engineering Session 2:**

***Hester Gardens – A LifeMoves Temporary Interim-Housing Facility***

**Taylor Klauser**

**Jeffrey Meier**

**Megan Sauter**

**Jenna Tran**

**Advisors: Tracy Abbott, Tonya Nilsson**



---

SANTA CLARA UNIVERSITY  
SCHOOL OF ENGINEERING

---

**Senior Design Presentation Award**  
**Computer Science and Engineering Session 1:**

***CentriFi: Centralized Wireless Access Point Management***

**Andreas Anderhub**

**Zackary Wilson**

**Advisor: Behnam Dezfouli**



---

SANTA CLARA UNIVERSITY  
SCHOOL OF ENGINEERING

---

**Senior Design Presentation Award**  
**Computer Science and Engineering Session 2 (Tie):**

***Electric Hydrofoil + Analysis Software***

**Peter Collins**

**Dylan Kertson**

**Akahi Troske**

**Advisor: Dan Lewis**





---

SANTA CLARA UNIVERSITY  
SCHOOL OF ENGINEERING

---

**Senior Design Presentation Award**  
**Computer Science and Engineering Session 2 (Tie):**

***PostureBot: Smartphone-Paired Posture Correcting Device***

**Ying Huang**

**Ali Nazemi**

**George Shappell**

**Advisor: Behnam Dezfouli**



---

SANTA CLARA UNIVERSITY  
SCHOOL OF ENGINEERING

---

**Senior Design Presentation Award**  
**Computer Science and Engineering Session 3:**

***Road Condition Detection***

**Peter Ferguson**  
**Brian Walker**

**Advisor: Behnam Dezfouli**



SANTA CLARA UNIVERSITY

SCHOOL OF ENGINEERING

**Senior Design Presentation Award**  
**Computer Science and Engineering Session 4:**

***PLATICA***

**Philip Cori**  
**Evan Johnson**  
**Andres Morales**  
**Nam Tran**

**Advisor: Yi Fang**



SANTA CLARA UNIVERSITY

SCHOOL OF ENGINEERING

**Senior Design Presentation Award**  
**Computer Science and Engineering Session 5 (Tie):**

***WayPoint***

**Kunal Pandey**

**Jose Perez**

**Tate Sakai**

**Advisor: Ahmed Amer**



---

SANTA CLARA UNIVERSITY  
SCHOOL OF ENGINEERING

---

**Senior Design Presentation Award**  
**Computer Science and Engineering Session 5 (Tie):**

***A Document Escrow Service***

**Steven Herman**  
**Dominic Lagorio**

**Advisor: Ahmed Amer**



---

SANTA CLARA UNIVERSITY  
SCHOOL OF ENGINEERING

---

**Senior Design Presentation Award**  
**Computer Science and Engineering Session 6:**

***YouLearn: Offline Media Streaming Application for Rural Uganda***

**Emma Allegrucci**  
**Jiabei Luo**  
**Brianna McGovern**

**Advisor: Silvia Figueira**



---

SANTA CLARA UNIVERSITY  
SCHOOL OF ENGINEERING

---

**Senior Design Presentation Award**  
**Electrical and Computer Engineering Session 1:**

***Delay-based Physical Unclonable Function Implementation***

**Abby Aguirre**

**Michael Hall**

**Timothy Lim**

**Jonathan Trinh**

**Advisor: Fatemeh Tehranipoor**



---

SANTA CLARA UNIVERSITY  
SCHOOL OF ENGINEERING

---

**Senior Design Presentation Award**  
**Electrical and Computer Engineering Session 2:**

***Transmission System for Wireless Charging in  
Three Dimensional Space***

**Bradley Shirley**  
**Amritpal Singh**

**Advisor: Kurt Schab**





---

SANTA CLARA UNIVERSITY  
SCHOOL OF ENGINEERING

---

**Senior Design Presentation Award**  
**Interdisciplinary Session 1 (Tie):**

***Supreme Optimizer***

**Griffin Donnelly**  
**Donovan Edwards**  
**Michael Yue**

**Advisors: Yi Fang, Rachel He, Sarah Kate Wilson**



---

SANTA CLARA UNIVERSITY  
SCHOOL OF ENGINEERING

---

**Senior Design Presentation Award**  
**Interdisciplinary Session 1 (Tie):**

***Heavy Lift Drone***

**Sam Carhart**

**David Cooper**

**Luis Gaitan**

**Michael Kaliterna**

**Sami Lama**

**Paul Rogel**

**Yuya Yabe**

**Advisors: Christopher Kitts, Jessica Kuczenski, Godfrey Mungal, Michael Taylor**



---

SANTA CLARA UNIVERSITY  
SCHOOL OF ENGINEERING

---

**Senior Design Presentation Award**  
**Interdisciplinary Session 2:**

***Human-centered Electric Prosthetic (HELP) Hand***

**Alonzo Billips**  
**Tehmi den Braven**  
**Bradon Hong**  
**Seamus Hudnut**

**Fatima Israr**  
**Garrett Stone**  
**Taylor Yamane**

**Advisors: Prashanth Asuri, Christopher Kitts, Michele Parker**



SANTA CLARA UNIVERSITY

SCHOOL OF ENGINEERING

**Senior Design Presentation Award**  
**Mechanical Engineering Session 1:**

***GraftThis***

**Brendan Gescher**  
**Molly Jansky**  
**Jack Margolis**  
**Kaleb Pattawi**

**Advisor: Hohyun Lee**



---

SANTA CLARA UNIVERSITY  
SCHOOL OF ENGINEERING

---

**Senior Design Presentation Award**  
**Mechanical Engineering Session 2:**

*Neptune: Marine ROV Retrofit and Shape Memory  
Alloy Water Sampler*

**Sophia Cero**  
**Artie Henderson**  
**Garrett Nelson**  
**Benjamin O'Brien**  
**Eleni Spirakis**

**Advisors: Christopher Kitts, Gaetano Restivo**



---

SANTA CLARA UNIVERSITY  
SCHOOL OF ENGINEERING

---

**Congratulations,  
Seniors!**



# Thanks to Our Amazing Session Chairs!!!

Sarah Ahmed  
Valeria Avila Guerrero  
Uma Bahl  
Emma Barrett-Catton  
Julianna Bernardo  
Aastha Chawla  
Ivy Chung  
Christine Chye  
James Dameris  
Olivia Figueira  
Felicia Frans

Siena Hanna  
Tim Hight  
Emily Holden  
Dwight Johnson  
Charles Ju  
Sarah King  
Alexander Kravtsov  
Sukuruth Krishnakumar  
Luke Lazzarini  
Thomas Lyp  
Emma McCurry  
Daniel Mendoza

Edie O'Connor  
Tania Pham  
Gaetano Restivo  
Murial Ross  
Claire Russon  
Katherine Sanchez  
Panthea Sepehrband  
Mai Sinada  
Ashley Troske  
Kyle Uyehara  
Mariela Zuniga



SANTA CLARA UNIVERSITY

SCHOOL OF ENGINEERING

**Thank you,  
everyone,  
for a great event!**