2019 IEE Apprentice Researchers Final Presentations  
Thursday, August 1, 2019  
Elings Hall 1601

5:00 PM  
Open Remarks

5:05 PM  
Synthesis and Characterization of Perovskite Proton-Conducting Electrolytes for Solid Oxide Fuel Cells  
Noor Guefroudj, Dos Pueblos High School  
Mentor: Eliovardo Gonzalez & Advisor: Prof. Raphaële Clément

5:18 PM  
Acoustic Optimization of Fiber-Optic Device Packaging  
Jassiel Mendoza, Dos Pueblos High School  
Mentor: Mark Harrington & Advisor: Prof. Daniel Blumenthal

5:30 PM  
Stabilizing Laser Frequency by Limiting Thermal Noise  
Pratik Gupta, Dos Pueblos High School  
Mentor: Grant Brodnik & Advisor: Prof. Daniel Blumenthal

5:42 PM  
Characterization of tunable quantum dot lasers in photonic integrated circuits  
Dariya Andriivna Lobko, Dos Pueblos High School  
Mentor: Dr. Yating Wan & Advisor: Prof. John Bowers

5:54 PM  
Automating the Data Analysis Process for Testing Photonic Devices  
Ella Onishuk, Santa Barbara Senior High School  
Mentors: Lin Chang, Dr. Paolo Pintus & Advisor: Prof. John Bowers

6:06 PM  
Characterizing Optical Equipment  
Kara Chatterton, Carpinteria High School  
Mentor: Seamus O’Hara & Advisor: Prof. Mark Sherwin

6:18 PM  
Understanding the genes in Drosophila fatty acid taste  
Yessenia A. Chavez, Santa Paula High School  
Mentor: Angela Morales & Advisor: Prof. Craig Montell
6:30 PM  Dinner Break

7:00 PM  Designing and testing an efficient actuator for liquid to gas phase change robots
Kathy Ramirez-Gijon, Dos Pueblos High School
Mentor: Charles Xiao & Advisor: Prof. Elliot Hawkes

7:12 PM  Using Deep Learning to Create a Facial Recognition Software
Kelly Gilmore, Dos Pueblos High School
Mentor: Satish Kumar & Advisor: Prof. B.S. Manjunath

7:24 PM  New Evolutionary Algorithm for Water Resources Optimization
Zaron DeSilva, Dos Pueblos High School
Mentor: Mohammad Solgi & Advisor: Prof. Hugo Loaiciga

7:36 PM  Reinforcement Learning in Neuron Activity Recordings
Matthew Helkey, Bishop Diego High School
Mentor: Yun Zhao & Advisor: Prof. Linda Petzold

7:48 PM  Wearable Heart Monitor for Measuring Changes of the Sympathetic Nervous System
Macey Turbow, Dunn School
Mentor: Viktoriya Babenko & Prof. Scott Grafton

8:00 PM  Closing Remarks