MAE Senior Design Projects – Winter 2016

AUTOMATED PIPETTING
One sentence description
Students: Anjan Chidambaram, Javier Davila Jr, Derek Gladstone, Eric Hernandez, Eric Huang, Pei Chi Wu, Vanessa Zin
Advisor: Vincent McDonell
Advisor: Farzad Ahmadkhanlou

INCREASING RELIABILITY & SAFETY OF BOLTED JOINTS FOR AEROSPACE
One sentence description
Students: Yulong Gu, Joseph Leonor, Zachary Milbourn, Ryan Roach, Antonio Tejeda
Advisor: Vincent McDonell
Advisor: Farzad Ahmadkhanlou

WATER FIXTURE AUTOMATION
One sentence description
Students: Abdullah Abdal, David Garcia, Erin Ho, Kristen Huey, Alex Law, Tristan Macaraeg, Sohee Oh
Advisor: Vincent McDonell
Advisor: Farzad Ahmadkhanlou

AERIAL WIND TURBINE
One sentence description
Students: Janelle Harkous, Leslie Hsiao, Jundong Hu, Daniel Klebe, Anchit Roy
Advisor: Dimitri Papamoschou

AIAA DESIGN BUILD FLY
The UC Irvine Design/Build/Fly team is a senior design project which designs, manufactures, and competes electric remote-control airplanes in the annual international Design/Build/Fly competition, allowing students to validate analytic studies through practical application and gain real-world aircraft design experience.
Students: Caroline Alvarado, Raphael Antwi, Jordan Birnbaum, Joel Chen, Richard Cheng, William Farrell, Allen He, Nick Huang, Justin Kerr, Daniel King, Sonny Li, Hiroki Nakajima, Don Raveen Solanga, Kristian Tana, Neptali Toribio, Daniel Tran, Johnny Wong, Shilong Xu, Willis Zhang
Advisor: Robert Liebeck

ADVANCED COMBUSTION TECHNOLOGY
The design of an engine test stand that will gather emission and performance data from a 50cc single cylinder, water cooled, 4 cycle, fuel injected, SI engine.
Students: Quan Diem Le
Advisor: Derek Dunn-Rankin

AFRL-HEAT PIPE
One sentence description
Students: Maral Abbasinik, Kamelia Asgari, Eric Huang, Daniel King, Sonny Li, Antonio Magana, Michael Rodriguez, Peichi Wu, Eric Yee, Willis Zhang
Advisor: John Larue
Advisor: Khalid Rafique

AFRL-HIGH FLUX
One sentence description
Students: Conor Ball, Said Bujdud-Gonzalez, Wesley Dodge, Alan Meza, Jose Meza-Sanchez, Michael Morey, Elijah Pascual, Melissa Perez, Victoria Tien, Roberto Trejo, Yosuke Woodruff
Advisor: John Larue
Advisor: Khalid Rafique

CARGO PLANE
This project is meant to design a heavy lift RC airplane that follows the guidelines of the SAE Aero West Regular class competition rules.
Students: Edwin Abrahamian, Michelle Antimie, Joshua Bae, Santiago Correa, Robert Foster, Tyler Gorman, Romik Mejlumyan, Ryan Min, Stephanie Pearce, Kelsey Safar, Ziming Sun, Madara Wijetunga
Advisor: John Larue

CIRCULAR UAV
One sentence description
Students: Moses Choi, Zihao Zou
Advisor: Haithem Taha

EXOSUIT
One sentence description
Students: Alexander Alvara, Mark Jakovljevic, Juan Lopez, Luz Vazquez Sevilla
Advisor: David Reinkensmeyer

FLAPPING MAV
One sentence description
Students: Richard Pham, George Saad, Vadim Slyusarchuk
Advisor: Haithem Taha

FUEL CELL
We will improve the energy efficiency and sustainability, reduce pollutant emissions, and eliminate energy grid reliance of data centers using fuel cells, clean renewable energy, and energy storage.
Students: Aaron Cheng, Gabrielle Cobos, Michael Crowley, Robert Miller, Allen Schellerup
Advisor: Jack Brouwer

FUEL CELL BATTERY
The purpose of the project is to design and fabricate a self-sustaining cycle using the following main components; fuel cell, solar panel, and electrolyzer.
Students: Shengnan Fei, Mehrdad Goshtasbpour Parsi, Michael Morey, Taylor Robertson
Advisor: Yun Wang

HYPERXITE
One sentence description
Students: Jiliana Andrews, Gabriel Buenviaje, Anthony Cirillo, Jasmine Cordero, Dean Defuria, Jacob Gantz, Patricio Guerrero Gertz, Margarito Guzman, James Harvey, Austin Johansen, Zepyoor Khechadoorian, Bander Linjawi, Nima Mohseni, Calvin Nguyen, Gabriel Pillitiere, Eric Romano, Madelyn Sando, Vivian Tseng
Advisor: Roger Rangel

RACECAR ELECRIC –Electra
One sentence description
Students:
Advisor: Michael McCarthy

RACECAR ENGINEERING – Savage
One sentence description
Students:
Advisor: Michael McCarthy

RACECAR ENGINEERING: Mini-Baja – Raider
One sentence description
Students:
Advisor: Michael McCarthy

RACECAR ENGINEERING: CNG – Delta
One sentence description
Students:
Advisor: Michael McCarthy

Racecar Engineering – Six Bar Suspension System
One sentence description
Students:
Advisor: Michael McCarthy

REHAB ROBOTICS (Thumb Exoskeleton and Concussion Research – are both of these projects existing? If so, please list them as two separate projects with student names and one sentence description.)
One sentence description
Students: Annie Lee, Yang Liu, Digish Mehta, Emanuel Reyes, Han Zheng
Advisor: David Reinkensmeyer

RESCUE ROBOTICS
Design and implementation of autonomous ground and aerial vehicles capable of finding natural disaster victims and reporting back their pictures and global position.
Students: Bonnie Gonzalez, Erin Ho, Lisa Ho, Valerie Martinez, Thuan Serrano, Phuoc Vo, Alexander Wang, Nickolas Zurlinden
Advisor: Jeff Krichmar
Advisor: Ian Harris
Advisor: Michael McCarthy

ROCKET ENGINE
One sentence description
Students: Jolie Bellegarde, Victor Chen, Mingeun Cho, Edgar Delgado, Itzetl Frausto, John Huynh, Chu Liu, Anthony Long, Bryan Orozco, Lakshan Peiris, Jianan Qu, Tiffany Quach, Danny Zarour
Advisor: Feng Liu

ROCKET PROJECT
The project focuses on finding an alternative method for CubeSAT deployment with an actively stabilized, liquid propelled Rocket from a Rockoon.
Students: Justin Block, Tai Wei Chen, Jesse Inouye, Leann Kampley, Michael Morey, Isaiah Navarro, Justin Oyas, Matthew Preszler, Yuan Zhang, Aaron Zhong
Advisor: Kenneth Mease

SMART TOYS
One sentence description
Students: George Agcopra, Amihan Amargo, Maria Aparicio, Ian Pareja
Advisor: Terry Wang

SOLAR POWERED AIRPLANE
One sentence description
Students: Callum Lamb, Tri Luong, Sage Thayer
Advisor: Yun Wang

SOLAR STOVE
Utilizing inexpensive salts readily available today as fertilizer and preservatives, Engineering students at UCI are developing a solar cook-stove that collects and stores solar energy for use in cooking after dark.
Students: Nathanael Chan, Victor Chen, Derek Gladstone, Kristen Huey, John Huynh, Katie Kim, Hiroki Nakajima
Advisor: Derek Dunn-Rankin

SPACECRAFT THERMAL SYSTEMS
The UCI Spacecraft Thermal Management Team is designing a Variable Emissivity Radiator utilizing an electrochromically controlled film to regulate the temperature of a 2-unit CubeSat in polar low earth orbit.
Students: Erik Dominguez, Pedro Salcedo
Advisor: John LaRue

THERMAL ENERGY
One sentence description
Students: Santiago Correa, Erik Dominguez, Shengnan Fei, Mehrshad Haghi, Justin Hill, Ronnel Jamir, Boxuan Ju, Ho Kyoung Lee, Juexiao Ning, Andre Plagata, Carlos Rodas, Erick Sarco, Zhe Shi, Justin Wong, Yang Yue
Advisor: Yun wang
Advisor: Jaeho Lee

TRIBOELECTRIC EH

One sentence description

Students: Pavitpal Bhatia, Joseph Garcia, Theron Smith

Advisor: Farzad Ahmadkhanlou

UAV FORGE

Our project goal is to design an autonomous aircraft, meeting DARPA's requirements, that can achieve vertical takeoff and long distance forward flight while streaming video back to the user.

Students: Riley Deghionno, Daniel Huynh, Cameron Kennedy, Sergio Linares, Rio Menchaca, Christopher Tan, Thi Tran, Cheng Ye

Advisor: Haithem Taha