KEYSER PROJECT PRESENTATION PRIZE

Established by Graham and Margaret Keyser and awarded annually to the best two
or more final group presentations of MTHE 493 – Engineering Mathematics Project.
The Prize will be awarded on the merits of the final presentation, as well as on the
quality of the work done on the project. The Prize includes a Certificate and
a Premium of $1000 (per group).

PAST WINNERS AND PROJECTS

2019

Chris Caromicoli, Lachlan Devir, Andrew Downie, Alex Taylor
Motion Planning in Stochastic Environments
(Supervisor: B. Gharesifard)

Alexander Amos, Etienne Berube, Daniel Krsikapa, Hisham Mansour
A Simple Robot That Hops and Flips
(Supervisor: A. Lewis)

Erin Battle, Jonah Eisen, Caelum Kamps, Jessica Kelly
Underwater Demining Operations Optimization and Design of Networked Control Systems
(Supervisor: S. Yuksel)

Joey Blumenstein, Thomas Morrish, Benjemin Simons
Initial Condition Optimization for the Network Polya Contagion Model with an Application
to Protect Against Weaponized Smallpox
(Supervisor: F. Alajaji)

2018

David Beallor, Himesh Bhatia, Adam Eisen, Connor McMillan, Daniel Tamming:
Image Restoration Algorithms for Musical Style Transfer
(Supervisor: A. Mansouri)

Griffin Baillie, Louis Burelle, Graeme Garner, Stephen MacKenzie
Optimizing Electric Grid Demand Management with Decentralized Learning
(Supervisor: S. Yuksel)

2017

Joshua DiRocco, Mareena MacPherson and Cleo Savides:
Underwater Source Seeking Using a Deformable Fish Search and Rescue
(Supervisor: B. Gharesifard)

Matthew Kowal, Gillian Sandison, Len Yabuki-Soh and Raner la Bastide:
Region Tracking in an Image Sequence Preventing Driver Inattention
(Supervisor: A. Mansouri)

2016

Julia Fraquelli, Manfred Kao, Palmira Pereira and Siobhan Powell:
Modeling Vortex-Induced Vibrations of Cables to Optimize Energy Capture
(Supervisor: A. Lewis)

Matt Boyd, Taylor Reynolds and True Wilson:
Extremum Seeking Control Methods for Nonholonomic Source Seeking Vehicles
(Supervisor: B. Gharesifard)

Graeme Baker, Jacqueline Craig, Adam Noble-Marks and James Vuckovic:
Audio Denoising Using Stochastic Models
(Supervisor: A. Mansouri)

2015

Leverett Binks-Collier, Garrick Poole and Stephanie Reed:
Learning Algorithms in Team and Game Problems
(Supervisor: S. Yuksel)

Jeremy Coulson, Ted Donnelly, Tommy Hall and Drew Steeves:
Synchronization of Coupled Oscillators
(Supervisor: B. Gharesifard)

 Lucy Santano Carrasco and Kiraseya Preusser:
Image Transmission over Optimized Communication Network
(Supervisors: F. Alajaji and T. Linder)

2014

Thomas Hughes, Kevin Gibson and Mitchell Wasson:
"Automated Face Recognition"
 (Supervisor: A.-R Mansouri)

Karin Martin and Marlee Vandewouw:
"Distributive Algorithms for Deployment of Autonomous Mobile Networks
(Supervisor: B. Gharesifard)

2013

Danny Grenzowski, Josh Levitan and Tristan Milne
*"Stochastic Image Models, Stochastic Gradient Descent, and Applications
   to Image Restoration"*
(Supervisor: A.-R. Mansouri)

Tyson Mitchell and Mikael Schlumpf
"Joint Source-Channel Coding for Deep-Space Communications"

(Supervisors: F. Alajaji and T. Linder)

2012

Scott Kyle and Stephen Rowlands
"*Control of An Airfoil in Planar Flow*"
 (Supervisor: A. Lewis)

Patrick Glover, John Treilhard and George Weekes
"*Restoring MRI Images Using Learned Image Priors*"
 (Supervisor: A.-R. Mansouri)

2011

Alexander Condello and Tyler Longo
"*Consensus and Agreement*"
(Supervisor: S. Yuksel)

Matthew Gilbert, Cameron McCormick and Kyle McCormick
"*Region Tracking Over an Image Sequence*"
 (Supervisor: A.-R. Mansouri)

2010 (tie of 3 groups)

Amy Buitenhuis, Tobias Barton and Ana Douderina
"*Controlling Water Flow in a Horizontal Channel*"
(Supervisor: A.-R. Mansouri)

Jeff Heakes and Rob Ballard
"*Optimized Decoding of Binary Images Over Channels with Memory*"
(Supervisors: F. Alajaji and G. Takahara)

Ian Scriver and Andrew Brennan
"*Learning Image Priors Applied To Aesthetics and Art*"
(Supervisor: A.-R. Mansouri)

2009

Sarah Correll, Colin Sutherland and Emma Willemsma
"*Computer Vision: Image Tracking*"
(Supervisor: A.-R. Mansouri)

Melissa Hernandez-Chiang and Margaret LaRocque
"*Handling Characteristics of Four-Wheel Steering Automobiles*"
(Supervisors: R. Anderson and T. Linder)

2008

David Burr, Joshua Fletcher and Victoria Wang
"*The Dubins Car*"
(Supervisor: A Lewis)

Dana Awamleh, Jeffrey Calder and Allan MacAulay
"*Region Tracking over an Image Sequence*"
(Supervisor: A.-R. Mansouri)

2007

Benjamin Turnbull and Adina Bogert-O'Brien
"*A Project in Robust Control*"
(Supervisor: A. Lewis)

Dalia El-Shimy, Antonio Sanchez and Eric Simpson
"*Speech Analysis and Modification*"
(Supervisor: S. Gazor)

2006

Paul Charbonneau, Thomas Norman and John Turriff
"*A Comparison of Control Strategies for Nonlinear Systems*"
(Supervisors: A. Lewis and D. Tyner)

Lindsay Smith
"*Automation of HAW-1 Ocean Cable Analysis and Study
    of Sources of Interference*"
(Supervisors: D. Thomson, L. Lanzerotti, C. MacLennan and W. Burr)

2005 (tie of 3 groups)

Haider Al-Lawati, Ahmed El Assaad and Karim Khairallah
"*Space-time Block Codes for Multi-Antenna Fading Channels*"
(Supervisors: F. Alajaji and F. Behnamfar)

Wesley Burr
"*Application of Statistical Signal Processing to Spatially
    Separated Climate Data*"
(Supervisors: D. Thomson and B. Gardiner)

David Campbell, Fok-Jee Leung and Daniel Morgan
"*Control of a Spherical Pendulum*"

(Supervisors: R. Hirschorn, D. Tyner and D. Voytsekhovsky)

2004

Matthew Hotrum, Guillermo Medina Llarena and Meghan Young
"*Constructing and Controlling a Three-Dimensional Overhead Crane*"
(Supervisor: R. Hirschorn)

Rebeka Matthews
"*Wind and Wave Modeling on Bridge Structures - A Focus on the Bermuda
    Causeway*"
(Supervisor: M. Green)

2003

Yasmin Hashambhoy and Eric Boyd
"*Swing-up and Sliding Mode Controller for the Double Inverted Pendulum*"
(Supervisor: R. Hirschorn)

Todd Garrison and Chris Nicola
"*Multimedia Data Compression over Rayleigh Fading Channels*"
(Supervisor: F. Alajaji)