ABDEL T. MAYYAS

CURRENT AFFILIATION

Associate Professor
Ira A. Fulton Schools of Engineering/The Polytechnic School
Arizona State University
Mesa, Arizona, 85212

RESEARCH INTERESTS

Model-based Automotive Systems Integration
Light Weight Vehicle Design
Electrified Powertrain Control, Design and Simulation
Motion Planning and Control of Automated Drive Systems
Intelligent Transportation & Smart Mobility.
Thermal Management Design and Optimization for Electrified Vehicles
Human Centric Design for Inter-Active Vehicle Safety Systems

EDUCATION

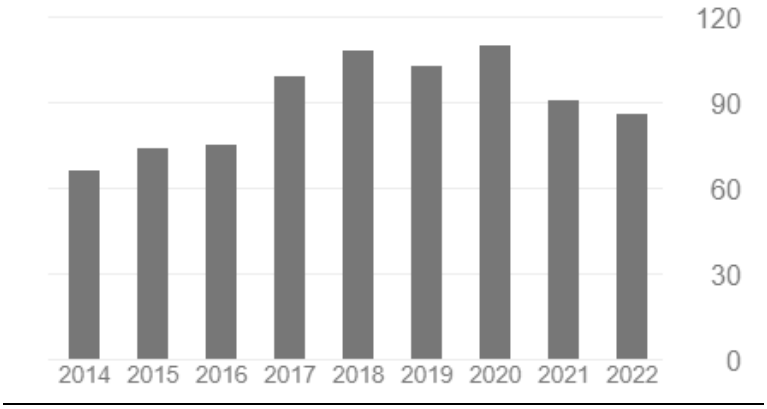
DEC. 2010	Clemson University, Clemson, SC. Int. Center for Automotive Research (CU-ICAR) Ph.D. /Automotive Engineering
MAY. 2006	Yarmouk University, Jordan M.S., Computer Engineering/ Embedded Systems
MAY. 1996	Mu'uta University, Jordan B.S., Mechanical Engineering/Automotive

HONORS AND AWARDS

MAY. 2018	**NSF Innovation Award,** Advanced Vehicle Technology Competition, EcoCAR 3**.**
MAY. 2018	**Mathworks Modeling Award**, Advanced Vehicle Technology Competition, EcoCAR 3 Year Two Competition. Washington DC.
MAY. 2017	**Mathworks Modeling Award**, Advanced Vehicle Technology Competition, EcoCAR 3 Year Three Competition. CA, LA**.**
May. 2014	**Best Collaboration with Clean Cities Award**, DoE-EcoCAR 3 Advanced Vehicle Technology. Seattle, WA, 2014**.**
May. 2014	**Best Labs & Facilities Award**, DoE-EcoCAR 3 Advanced Vehicle Technology. Seattle, WA, 2014**.**
DEC. 2011	**Outstanding Dissertation Award in Recognition of Excellent Contribution to Advancement of Knowledge in Automotive Engineering**) Clemson University-International Center for Automotive Research, CU-ICAR, 2010.
DEC. 2006	**Best Invention Award**, Philadelphia University, Jordan**.**

DEC. 2002 **Distinguished Engineers Award,** Jordanian Engineering Association**.** Amman, Jordan.

SUMMARY OF PUBLICATIONS AND INTELLECTUAL PROPERTY



Journal Publications

1. Al-Quran, M., & Mayyas, A. R. O. (**2022**). Three-dimensional in-depth dynamic analysis of a ground vehicle experiencing a tire blowout. **To be submitted** to the Vehicle System Dynamics, IF: 4.65.
2. Al-Quran, Mahdi, and **Abdel Ra'Ouf Mayyas**. "A nonlinear tire blowout stabilizer based on a novel integral terminal sliding mode controller." IEEE Access 9 (**2021**): 46652-46663.
3. Alquran M, **Mayyas AR**. Design of a Nonlinear Stability Controller for Ground Vehicles Subjected to a Tire Blowout Using Double-Integral Sliding-Mode Controller. SAE International Journal of Vehicle Dynamics, Stability, and NVH. **2021** Apr 21;5(3).
4. Nair, S. S., Mayyas, A. R., Wishart, J., & Al-Quran, M. (**2020**). Forward-Looking Traffic-Aware High-Level Decision Control (HLDC) Algorithm for Hybrid Electric-Connected and Automated Vehicles (HE-CAVs). SAE International Journal of Connected and Automated Vehicles, 3(12-03-03-0013), 151-160.
5. Bradford M, Juan T, Wishart J, Chen Y, Mayyas AR, Shirvastava A, Hofmann N. Development of a Connected and Automated EV with 4 In-Wheel Motors. Local Motors Inc.; 2019 Jul 31.
6. Abdel Mayyas*, **P Jethani**, J. Wishart, **M. Zorgan**. (**2019**) Comprehensive Review of Control Strategies for Fuel Cell Vehicles. SAE World Congress **2019**.
7. Abdel Ra'ouf. Mayyas*, **Sidharth Sukumaran Nair,** Jeffery Wishart, Nils Hoffman. **(2019) "**Forward-Looking Traffic-Aware Cooperative Adaptive Speed and Battery Control System (CASBC)". **Submitted** to SAE International Journal of Connected and Automated Vehicles. **2019.**
8. **Mayyas, Abdel, Sushil Kumar, Pierluigi Pisu, Jacqueline Rios, and Puneet Jethani.** "Model-based design validation for advanced energy management

strategies for electrified hybrid power trains using innovative vehicle hardware in the loop (VHIL) approach." *Applied Energy* 204 (2017): 287-302.

9. **Badami, Pavan,** Andrew Opitz, Lin Shen, R. Vaidya, **Abdel. Mayyas,** Kayshap. Knoop, Anshuman. Razdan, and A. M. Kannan***.** (***2017***) "Performance of 26650 Li-ion cells at elevated temperature under simulated PHEV drive cycles." *International Journal of Hydrogen Energy*. 42(17), 12396-12404. **Q1**.
10. **Carroll Joshua**, **†Mohammad Alzorgan**, Corey Page, and **Abdel Raouf Mayyas*** "Active Battery Thermal Management within Electric and Plug-In Hybrid Electric Vehicles". No. 2016-01-2221. SAE Technical Paper, ***Q1.***
11. **†Alzorgan, Mohammad**, **Joshua Carroll, †Essam Al-Masalmeh**, and **Abdel Raouf Mayyas*** "Look-Ahead Information Based Optimization Strategy for Hybrid Electric Vehicles". No. 2016-01-2226. SAE International Journal of Commercial Vehicles, ***Q1***
12. Mohammad Omar**;** Ahmad Mayyas***; Abdel Ra'ouf. Mayyas;** Mohammad Hayajneh. "Vehicle's Lightweight Design vs. Electrification from Life Cycle Assessment Perspective". (2016). International Journal of Lifecycle Assessment. ***Q1.***
13. Mayyas, Ahmad T., **Abdel Mayyas**, Ala Qattawi, and Mohammed A. Omar. "Sustainable lightweight vehicle design: a case study of eco-material selection for body-in-white." *International Journal of Sustainable Manufacturing.* No. 4 (2012): 317-337. ***Q1***
14. **Mayyas*, Abdel**, Ramani, Dilip., **Kannan, A. M., Hsu, King**., & Schwenn, Tony. Cooling strategy for effective automotive power trains: 3D thermal modeling and multi-faceted approach for integrating thermoelectric modules into proton exchange membrane fuel cell stack. *International Journal of Hydrogen Energy*, *39*(30), 17327-17335. ***Q1***.
15. Mayyas, Ahmad*, Mohammed A. Omar, **Abdel Raouf Mayyas,** Ala Qattawi, and Qin Shen "Knowledge-based system, equipped with cluster analysis for eco-material selection: an automobile structure case study." *International Journal of Sustainable Engineering* 7, no. 3 (2014): 200-213. ***Q1.***
16. **Mayyas A.*,** Robert Prucka, Imtiaz Haque, Pierluigi Pisu, "Model-Based Automotive System Integration: Using Vehicle Hardware in the Loop VHiL Simulation for an integration of Advanced Hybrid Electric Power Train. *2013. Int. J. Electric and Hybrid Vehicles, Vol. 5, No. 3,* ***2013 Q2****.*
17. **Mayyas, A.***, Prucka, R., Pisu, P., & Haque, I. Chassis Dynamometer as a Development Platform for Vehicle Hardware In-the-Loop "VHiL". *SAE International Journal of Commercial Vehicles*, ***2013***, *6*(1), 257-267. **Q2**
18. **Mayyas, A**.*, Omar, M., and Pisu, P., **A. M. Kannan**, "Thermal Modeling & Analysis of an On-Board Internal Combustion Engine Based Powertrain, *International Journal of Modern Engineering*. Vol. 13, Number 2, Spring/Summer. **2013**.**Q2**

19. *Ahmad T., **Mayyas A.,** M. Omar, Shon Dongari, Quin Shin. (**2013**). "Quantifiable measures of sustainability: a case study of materials selection for eco-lightweight auto-bodies. (**2013**) " *Journal of Cleaner Production* 40 (***2013***): 177-189. ***Q1.***

20. Mayyas*, Ahmad T., **Abdelraoof Mayyas**, Ala Qattawi, and Mohammed A. Omar. "Sustainable lightweight vehicle design: a case study of eco-material selection for body-in-white." (**2012**) International Journal of Sustainable Manufacturing 2, no. 4 (2012): 317-337. **Q1**

21. *Ahmad Mayyas, **A. Mayyas.,** Omar, M.A.,**(2012)** "Life cycle assessment-based selection for sustainable lightweight body-in-white design ", *Journal of Energy*, 39-, 412-425 (2012). **Q1**.

22. Alahmer, Ali*, Mohammed Omar, **Abdel Raouf Mayyas,** and Ala Qattawi. (**2012**). "Analysis of vehicular cabins' thermal sensation and comfort state, under relative humidity and temperature control, using Berkeley and Fanger models." Building and environment 48 (2012): 146-163**. Q1**

23. ***Mayyas A.,** Mohammed Omar, P. Pisu,**.** (**2011**). "Thermal modeling of an on-board nickel-metal hydride pack in a power-split hybrid configuration using a cell based resistance–capacitance, electro-thermal model", 2011 "*International Journal of Energy Research*". ***Q1.***

24. *Ali Alahmer, **A. Mayyas,** Omar, M.A., **(2011)** "Effect of relative humidity and temperature control on in-cabin thermal comfort state: thermodynamics and psychometric analysis", (**2011**). *Journal of Applied Thermal Engineering*, 31-, 2636-2646 (2011). ***Q1.***

25. ***Mayyas, Abdel.,** Omar, M., and Pisu, P.,**(2011)**"Comprehensive Thermal modeling of Power Split Hybrid Powertrain Using Battery Cell Model," *Journal of Power Sources* 196 (2011) 6588–6594. ***Q1.***

26. **Mayyas, A.*,** Qin, S., Mayyas, A. Omar, M. A.,(**2011)**" "QFD and AHP based optimization methods for selecting a BiW material design", *Journal of Material and Design,* 32 (2011) 2771–2782. ***Q1.***

27. *Ali Alahmer, **A. Mayyas**, Omar, M.A., **(2011)**" "Vehicular thermal comfort models; a comprehensive review", *Journal of Applied Thermal Engineering*, 31-, 995-1002 (2011). *Q1*.

28. Reddy, K., Omar, M. A., Zhou, Y., **Mayyas, A., (2011)**" "Spatially constrained scanning scheme applied for automotive interior gap measurements", *Journal of Sensors Review* 31 (2011), pp. 239-245. ***Q2***

29. *Zhou, Y., **Mayyas A.,** Qattawi, A., Omar, M. A. (**2010**) "Feature-level and Pixel-level fusion routines when coupled to infrared night-vision tracking scheme" *Journal of Infrared Physics and Technology*, **53**, 1, 43-49, (2010). ***Q2.***

Peer Reviewed Book Chapters (Published)

1. *A. Mayyas**, Abdel Mayyas,** M. Omar. (**2016**). "Lightweight Composite Structures in Transport: Design, Manufacturing, Analysis and Performance". Elsevier Inc., p. 267-302 36 p.

Peer Reviewed Conference Papers (Published)

1- Kumar Sushil, Matthew West, Joshua Conter, Megan Cawley, Rashad Maady, and **Abdel Mayyas***. (***2015***) "Vehicle Plant Model and Supervisory Control Development for a Parallel Pre-Trans Plug-In Hybrid Electric Vehicle." The International Federation of Automatic Control. "*IFAC*- 48, no. 15:139-146. ***Q1***.

2- Omar, M, Zhou, Y, Mayyas, A & Qattawi, A 2010, Pulse thermography for inspecting automotive components and materials. in SAE Technical Papers. **SAE 2010 World Congress and Exhibition**, Detroit, MI, United States, 13-13 April. DOI: 10.4271/2010-01-0959.

INVITED TALKS & PRESENTATIONS

Invited Presentations

1- ***Abdel Mayyas,** Josh Rosenberg. (**2017**), "RadTherm for Modeling & Simulation Using Multifaceted Approach", @ Annual RadTherm User Group Meeting of North America 2017 Novi Michigan, USA, ThermoAnalytics Inc. User Group Meeting, March, 2017.

2- ***Abdel Mayyas**, Josh Carroll, Yu. Ju., Mohammad Alzorgan**, James Contes, (2017) "**Advanced Vehicle Technology: High Performance Plug-in Hybrid Electric vehicle" Presented at SAE Annual Meeting", 2017, Phoenix, AZ.

3- ***Abdel Mayyas** "Importance of Ethical Engineering in the Field and Its Impact on Society", (**2016**) presented to "**The Order of the Engineering**" Ceremony, March-2016 ASU-National Program.

4- **Abdel Mayyas,** Mattie Whitt, Josh Carroll, Kumail Selani**. (2016)** "ASU EcoCAR Clean Cities Collaboration Presentation". Presented at Clean Cities Collation Stakeholder Meeting at Phoenix-Scottsdale. AZ 2016.

5- Guaravraj Wadhwa, ***Abdel Mayyas**, Ulises Sanchez, September **(2016)**, "RadTherm for Modeling & Simulation Using Multifaceted Approach", @ Annual RadTherm User Group Meeting of North America 2014 Novi Michigan, USA, 2015 ThermoAnalytics Inc. User Group Meeting, Oct, 4th.

6- **Abdel Mayyas,** Ashley Yost, Mohammad Alzorgan, Josh Carroll, **Lauri Ralston. (2015)** "ASU EcoCAR Clean Cities Collaboration Presentation". Presented at Clean Cities Collation Stakeholder Meeting at Phoenix-Scottsdale. AZ.

7- *Brian Hennesy, Ashley Yost**, Abdel Mayas, *Kiril Hristovski (2015)** "EcoCAR 3: Creating Innovative Automotive Solutions for Environmental Sustainability at Arizona State University". 11th Annual Gatekeeper Regulatory Roundup, February 3 - 4, 2015, Phoenix, AZ, 2015.

8- **Abdel Mayyas,** Megan Coley, Josh Carroll, Rashad Maady, Ashley Yost**. (2014)** "ASU EcoCAR Clean Cities Collaboration Presentation". Presented at Clean Cities Collation Stakeholder Meeting at Phoenix-Scottsdale. AZ.

9- ***Abdel Mayyas**, Ashley Yost, Brian Hennessey and **Lauri Ralston**, **(2014)** "Valley of the Sun Clean Cities Coalition Stakeholder Presentation", Arizona.

INVENTION DISCLUSRE AND PATENTS

1- "**Tire Re-Inflation System**" Patent # (2149), Jordan, Dec. 2002.

FUNDDED RESEARCH PROJECT

a) External Funding

1- **Maricopa Association of Government** (**MAG**), **2019**. Emerging Technologies Field Pilots selected as an on demand sub-consultant "Stantec team", who is selected as a qualified on-call consultant. Topic include: energy efficiency for CAVs, Intelligent Transportations, and Vehicle electrification.

2- **Torque Trends-2013: (PI)"** Design and Build a High Performance First Class State-of-the-Aftermarket Art Test Drive Electric Vehicle EV- using Mazda MX-5 Miata Platform". ***$5,000. AWARDED***

3- **DoE-AVTCs-2014: (PI)** "Advance Vehicle Technology Competition AVTC's DoE, EcoCAR 3 Program". ***$87,789,384*** in cash and in-kind contribution (***$442,629*** cash & ***$87,324,803*** of an in-kind). ***AWARDED***

4- **SRP-CREC-2014:** (**CO-PI**). "Reliability and Performance Evaluation of Batteries in hot/dry climate: Phase 3, CTI –SRP Research Grant Program, Conservation and Renewable Energy Collaboratory (CREC), ***$44,213***. ***AWARDED***

5- **SRP-CREC. 2015.** "EV Battery Performance in the Desert Area: Phase II, CTI – SRP Research Grant Program, Conservation and Renewable Energy Collaboratory (CREC), **$44,880. CO-PI. *AWARDED***

6- **SRP-CREC. 2016**. (**CO-PI**). "EV Battery performance in the desert area Phase III" CTI –SRP Research Grant Program, Conservation and Renewable Energy Collaboratory (CREC), **$49,500**. ***AWARDED***

7- **NSF- Broadening Diversity Participation (PI)**, 2016, **($15,000)** "Broadening the diverse participation of ASU-undergraduate students from underrepresented minorities in the field of automotive engineering. ***AWARDED***.

8- **NSF-REU (PI)**, *2016*, **($12,000)** "Emphasize research training Among ASU-undergraduate in the field of Advanced Vehicle Technology Competitions (**AVTCs**)". ***AWARDED***.

b) Internal Funding.

1. **CTI-SSE-2013**: **(PI)** Scholarship Support & Enhancement Grant Program (Validation of an Advanced Hybrid Electric Propulsion System Configurations Using Hardware In-the-loop (HiL)): **$11,780$. *AWARDED***.

STUDENTS MENTORSHIP (within ASU)

In Progress-"COMMITTEE CHAIR"

1- Essam Almasalmeh, **PhD**, (Human Systems Engineering);
Expected Graduation: May 2023; **Externally Funded**.

- Dissertation Title "**Driver Behavior and Transitioning Control in Highly Automated Vehicles**"

2- Ali Al Shami, (Mechanical and Aerospace Engineering);
Expected Graduation: May 2023; **Externally Funded**.

- Dissertation Title "**Laser Sintered 3D-printed Refractory Metal Alloys Pin Tools for Friction Stir Welding (FSW) of Steels and High-Temperature Materials**"

3- Mahdi Alquran, **PhD**, (Mechanical and Aerospace Engineering);
Graduated: May 2021; **Externally Funded**.

Dissertation Title "**Dynamics and Control of a Ground Vehicle Subjected to a Tire Blowout**"

4- Jamil AL Omari, **PhD**, Simulation Modeling and Applies Cognitive Sciences (Human Systems Engineering);
Graduated May 2017; **Internally Funded**.

- Dissertation Title "**Human-Centric Detection and Mitigation Approach for Various Levels of Cell Phone-Based Driver Distractions for Inter-Active Vehicle Safety Systems**"

MASTER STUDENTS MENTORSHIP

Total of (17) MS students. Out of which (14) students were solely mentored by Abdel Mayyas as a committee chair. (13) Graduated and (4) are still in progress.

Chair, Thesis, Josh Carroll, MSE-Poly, ***graduated***, Spring/2018.**Externally Funded.**

- **Thesis Title** "Comprehensive Model-Based Design and Analysis

Approach for Optimal Thermal Management Systems in Hybridized Vehicles".
- co-authored 3 peer reviewed journal article with A. Mayyas.

Chair, Thesis, Puneet Jethani, MSE-Poly, ***graduated***, Spring/2017.
- **Thesis Title** "Power Management Strategy of a Fuel Cell Hybrid Electric Vehicle with Integrated Ultra-Capacitor with driving pattern recognition.".
- co-authored 3 peer reviewed journal article with A. Mayyas.

Chair, Thesis, Mohammad Alzorgan, MAE-SEMTE, ***graduated***, Fall/2016. **Externally Funded.**
- **Thesis Title** "Look-Ahead Information Based Optimization Strategy for Hybrid Electric Vehicles".
- co-authored 2 technical paper with A. Mayyas.
- co-authored 2 peer reviewed journal article with A. Mayyas.
- Awarded MathWorks® award for Best Modeling and Simulation. Advanced Vehicle Technology Competition. San Diego CA. Spring 2016.

Chair, Thesis, Sushil Kumar, MSE-Poly, ***graduated***, Fall/2015. **Externally Funded.**
- **Thesis Title** "Fuzzy logic based driving pattern recognition for Hybrid Electric Vehicle energy management".
- Co-authored 1 peer reviewed journal article with A. Mayyas.

Chair, Thesis, Dilip Ramani, MSE-Poly, ***graduated***, Fall/2015.
- **Thesis Title** "Fuel Cell Thermal Management with Thermoelectric Generators: 3D Thermal Modeling of PEM Fuel Cell Stack using Multi-Faceted Approach".
- Co-authored 1 peer reviewed journal article with A. Mayyas.

Chair, Thesis, Govind Goyal, MSE-Poly, ***graduated***, Fall/2014; **Internally Funded.**
- **Thesis Title** "Model Based Automotive System Integration: Fuel Cell Vehicle Hardware In-the-loop".

Chair, Applied Project, Shubham Sahrma, MAE-SEMTE, ***graduated***, Fall/2015.
- **Project Title** "Internet Distributed Vehicle Hardware in the Loop: Platform for an Automotive Development over Chassis Dynamometer".

Chair, Applied Project, Hari Sankar, MAE-SEMTE, ***graduated***, Fall/2015.
- **Project Title** "Analysis of Vehicular Cabin Human Thermal Comfort using optimized Fuzzy controller".

Co-Chair, Thesis, Rashad Ma'ady, MSE-Poly, ***graduated***, Spring/2017.
- **Thesis Title** "Supervisory Control Optimization with SQP for Parallel Hybrid Vehicle with Synchronous Power Sources".
- co-authored 2 technical paper with A. Mayyas.

Committee member, Thesis, Abdullah Alotaibi, ECEE ***graduated*** May/2020.
- **Thesis Title" The Impact of Off-shore Wind Farms on Kuwait's Electrical Grid**."

Committee member, Applied Project, Pouya Bidram, ***graduated*** Spring/2013.
- **Thesis Title"** Investigation on the Functionality of PC-Based Centralized Industrial Control"

Committee Member, Priyesh Ray, Thesis, MSE-Poly, ***graduated*** Spring/2014.
- **Thesis Title"** Performance and Scaling Analysis of a Hypocycloid Wiseman Engine"

Committee member, Thesis, Rod Nesheiwat, ***graduated*** Spring/2016.
- **Thesis Title"** Hydrogen Fuel Cell on a Rotary Wing Aircraft a System Engineering Approach"

Committee member, Thesis, Rahul Srinivasa, ***graduated*** Spring/2016.
- **Thesis Title"** Instrumentation and Coverage Analysis of Cyber Physical Systems"

Chair, Applied Project, Yu-Ju Hsu, MAE-SEMTE, **graduated** Spring/2018; **Externally Funded.**
- **Thesis Title** "Distributed Coordination of Connected and Automated Vehicles at Multiple Interconnected Intersections".
- Co-authored 1 peer reviewed journal article with A. Mayyas.

Chair, Thesis, Arjun Subba, MAE-SEMTE, **expected graduation:** Fall/2017;
- **Thesis Title** "Towards Energy Efficient Autonomous Drive: Hierarchical control strategies for energy management of connected hybrid electric vehicles in urban roads".
- Co-authored 1 peer reviewed journal article with A. Mayyas.

Chair, Thesis, Vineet Sharma, MAE-SEMTE, **expected graduation:** Fall/2018;
- **Thesis Title** "Traffic Information Integrated Energy Management Strategy for Maximum Regenerative Braking Energy Efficiency for High Performance Plug-In Hybrid Electric Vehicle".

UNDERGRADUATE STUDENTS MENTORSHIP (within ASU).

Undergraduate Students Mentored for their undergraduate project; (Select from more than 40)

Samantha Twett, ***Fulton Undergraduate Research Initiative Grant***, Spring 2015.

Joshua Conter, ***Fulton Undergraduate Research Initiative Grant***, Fall/2014.

Victor Wise, ***Fulton Undergraduate Research Initiative Grant,*** *Spring 2015.*

Ulises Sanchez, **NASA Space Grant**, *Fall 2015 & Spring 2016.*

Michael Cottles, ***Fulton Undergraduate Research Initiative Grant,*** *Fall 2016. (In Progress)*

Josh Rosenberg***, Fulton Undergraduate Research Initiative Grant,*** Spring 2017. *(In Progress)*

Ashley Yost, **EcoCAR Advanced Vehicle Technology Program Project Management**. *Fall/2015.* ***Externally Funded***.

Briana De Bianco, **EcoCAR Advanced Vehicle Technology Program Communication Management**. *Spring/2014.* ***Externally Funded***

Brian Hennessey, **EcoCAR Advanced Vehicle Technology Program Communication Management**. *Fall/2016.* ***Externally Funded.***

Mattie Whitt, **EcoCAR Advanced Vehicle Technology Program Communication Management**. *Spring/2016 (In Progress).* ***Externally Funded***

c) iProjects, NASA & FURI Grants

2. **FSE-NASA-2016. "**Dual Hybrid Propulsion Vehicles Design and Simulation" ASU/***NASA*** SPACE GRANT, 2015. for Fall 2015-Spring 2016, $***3,800. AWARDED***
3. **FSE-FURI-2015.** "Optimized Human Thermal Comfort for design and analysis for Hybrid Electric Powered Vehicle using real time closed feed-back and fuzzy control". Fulton Undergraduate Research Initiative (***FURI***) for spring 2015, $***3,800***. ***AWARDED***.
4. **FSE-FURI-2014.** "Advanced Energy Management Strategies Design and Development for Plug-in Hybrid Electric Vehicle (PHEV)". Fulton Undergraduate Research Initiative (***FURI***) for spring 2014, $***3,800***. ***AWARDED***.
5. **FSE-FURI-2015.** "Driving Pattern Recognition Algorithm Based Control Strategy for Fuel Cell Hybrid Electric Vehicles 'FCHEV'", Fulton Undergraduate Research Initiative (***FURI***) for fall 2014-Spring 2015, $***3,800***. ***AWARDED.***
6. **FSE-FURI-2016.** "Look-Ahead Power Management in Plug-In Hybrid Electric Vehicles", Fulton Undergraduate Research Initiative (***FURI***) for fall 2014-Spring 2015, $***3,800***. ***AWARDED.***
7. **FSE-FURI-2016.** "Optimizing Human Thermal Comfort in High Performance Plug-In Hybrid Electric Vehicle (PHEVs)", Fulton Undergraduate Research Initiative (***FURI***) for fall 2014-Spring 2015, $***3,800***. ***AWARDED.***

LIST OF STUDENTS POSITIONS

The list below demonstrates the volume and diversity of students who have been funded and/or mentored. Many of these students are also represented in publications elsewhere on the CV, illustrating the effectiveness of the mentorship of these students, even for the cases in which there is not a formal advising relationship.

Name Student Name	**Major (Student Level)**	**Employer**	**Current Position**
Jamil Alomari	Computer Engineering/PhD	Intel	Lead Engineer
Sushil Kumar	Graduate/ MS-ME	Karma Automotive	Hybrid Control
Shubham Sharma	Graduate/MS-ME	Caterpillar	Design Engineer

Ashley Yost	Graduate /MS-GIT	CP Graphics	Projects director
Josh Carroll	Graduate/ MS-EE	Bosch	Lead Engineer
Rashad Maady	Graduate/ MS-ME	General Motors	Control Engineer
Zackary Yaski	Undergraduate/ Automotive	Ford Motor Company	Control Engineer
Puneet Jethani	Graduate/ MS-ME	AVL	Hybrid Testing and Control
Arjun Subba	Graduate/ MS-ME	Tesla	Design Engineer
Justin Lonchar	Graduate/ MS-EE	General Motors	Electrical Engineer
Josh Conter	Undergraduate/ Automotive	General Motors	Design Engineer
Matt West	Undergraduate / ME	Ford Motor Company	Design Engineer
Hayden Hostetler	Undergraduate / ME	Bosch	Internship
Josh Boulangsy	Undergraduate / ME	Honeywell	Design Engineer
Corey Page	Undergraduate / ME	General Motors	Control Engineer
Ashley Yost	Graduate/MS-GIT	Director of Operations.	Director at printCPG
Josh Rosenberg	Undergraduate/ Automotive	General Motors	Design Engineer
Sara Hernandez	Undergraduate/ EE	General Motors	Control Engineer
Edgar Cunningham	Undergraduate/ Automotive	General Motors	Calibration Engineer
Spencer Klimke	Undergraduate/ Automotive	General Motors	Application Engineer
Oliver Ramos	Undergraduate/ Automotive	General Motors	Application Engineer

TEACHING AT ARIZONA STATE UNIVERSITY

GRADUATE LEVEL COURSE:

EGR 598: EcoCAR Model Based Design (3 units). **Fall 2014**
Students in class: **8**
Note: New Course Development in Classroom Setting. First time taught.

EGR 598: EcoCAR Model Based Design (3 units). **Fall 2015**
Students in class: **10**

EGR 598: EcoCAR Model Based Design (3 units). **Spring 2015**
Students in class: **2**

EGR 598: EcoCAR Model Based Design (3 units). **Fall 2016**
Students in class: **1 (independent study)**

UNDERGRADUATE LEVEL COURSES:

MET 424: Vehicle Electrical Systems (3 units). **Fall 2012**
Students in class: **12**
MET 427: Vehicle Systems Integration (3 units). **Spring 2013**
Students in class: **12**
MET 424: Vehicle Electrical Systems (3 units). **Fall 2013**
Students in class: **18**
EGR 219: Computational Modeling (3 units). **Spring 2014**
Students in class: **37**
Note: First time taught.
EGR 219: Computational Modeling (3 units). **Summer 2014**
Students in class: **19**
MET 424: Vehicle Electrical Systems (3 units). **Fall 2014**
Students in class: **27**
EGR 463: Vehicle Electrical Systems & Hybrid System (3 units). **Fall 2014**
Students in class: **7**
EGR 494: EcoCAR Model Based Design (3 units). **Fall 2014**
Students in class: **8**
EGR 493: EcoCAR Model Based Design (3 units). **Fall 2014**
Students in class: **20**
EGR 194: EcoCAR Model Based Design (3 units). **Fall 2014**
Students in class: **11**
EGR 316: Automotive System Project (3 units). **Spring 2015**
Students in class: **7**
EGR 589: EcoCAR Model Based Design (3 units). **Spring 2015**
Students in class: **4**
EGR 494: EcoCAR Model Based Design (3 units). **Spring 2015**
Students in class: **6**
EGR 394: EcoCAR Model Based Design (3 units). **Spring 2015**
Students in class: **8**
EGR 194: EcoCAR Model Based Design (3 units). **Spring 2015**
Students in class: **6**
MET 424: Vehicle Electrical Systems (3 units). **Fall 2015**
Students in class: **6**
EGR 463: Vehicle Electrical Systems (3 units). **Fall 2015**
Students in class: **13**
EGR 494: EcoCAR Model Based Design (3 units). **Fall 2015**
Students in class: **5**
EGR 394: EcoCAR Model Based Design (3 units). **Fall 2015**
Students in class: **9**
EGR 316: Automotive System Project (3 units). **Spring 2016**
Students in class: **12**
EGR 494: EcoCAR Model Based Design (3 units). **Spring 2015**
Students in class: **4**
EGR 394: EcoCAR Model Based Design (3 units). **Spring 2015**
Students in class: **10**
EGR 194: EcoCAR Model Based Design (3 units). **Spring 2015**

Students in class: **4**
EGR 219: Computational Modeling (3 units). **Summer 2016**
Students in class: **30**
EGR 494: EcoCAR Model Based Design (3 units). **Fall 2016**
Students in class: **6**
EGR 394: EcoCAR Model Based Design (3 units). **Fall 2016**
Students in class: **10**
EGR 194: EcoCAR Model Based Design (3 units). **Fall 2016**
Students in class: **8**
EGR 463: EcoCAR Model Based Design (3 units). **Fall 2016**
Students in class: **13**
EGR 463 Vehicle Electrical Systems (3 units) **Fall 2017**
Students in class: **43.**
EGR 463 Vehicle Electrical Systems (3 units) **Spring 2018**
Students in class: **34.**
EGR 316 Automotive Concentration Project (3 units) **Spring 2020**
Students in class: **28.**
EGR 463 Vehicle Electrical Systems (3 units) **Spring 2020**
Students in class: **24.**
EGR 316 Automotive Concentration Project (3 units) **Spring 2021**
Students in class: **23.**
EGR 463 Vehicle Electrical Systems (3 units) **Spring 2021**
Students in class: **27.**
EGR 465 Ground Vehicle Dynamics (3 units) **Spring 2021**
Students in class: **27.**
EGR 463 Vehicle Electrical Systems (3 units) **Spring 2021**
Students in class: **24.**
Students in class: **18.**

iPROJECTS (2012-2021)

iProject Title: Design and Development of SAE Baja Suspension for Endurance Race Testing.
Project Duration: 2 semesters (Fall 2012-Spring 2013)
Students on the project: 6
iProject Title: Advance Infotainment System Development Using Android App for Open XC Platform.
Project Duration: 2 semesters (Fall 2013-Spring 2014)
Students on the project: 6
iProject Title: Analysis of Vehicular Cabin Human Thermal Comfort using optimized Fuzzy controller.
Project Duration: 2 semesters (Fall 2014-Spring 2015)
Students on the project: 4
iProject Title: EcoCAR 3: Vehicle Design and Implementation of a High Performance Parallel-Pre Transmission Plug-in Hybrid Electric Vehicle.
Project Duration: 2 semesters (Fall 2014-Spring 2015)

Students on the project: 4

iProject Title: EcoCAR 3: A Matlab-Based Modeling and Simulation for Parallel-Pre Transmission Plug-in Hybrid Electric Vehicle Design.
Project Duration: 2 semesters (Fall 2014-Spring 2015)
Students on the project: 4
iProject Title: EcoCAR 3: A Matlab-Based Modeling and Simulation for Parallel-Pre Transmission Plug-in Hybrid Electric Vehicle Design.
Project Duration: 2 semesters (Fall 2014-Spring 2015)
Students on the project: 6
iProject Title: EcoCAR 3: Modeling and Control of Parallel-Pre Transmission Plug-in Hybrid Electric Vehicle Design.
Project Duration: 2 semesters (Fall 2015-Spring 2016)
Students on the project: 6
iProject Title: EcoCAR 3: Control optimization for a Parallel-Pre Transmission Plug-in Hybrid Electric Vehicle Design.
Project Duration: 2 semesters (Fall 2015-Spring 2016)
Students on the project: 6
iProject Title: EcoCAR 3: The Impact of Hybrid and Electric Powertrains on Vehicle Dynamics, Control Systems and Energy Consumption.
Project Duration: 2 semesters (Fall 2016-Spring 2017)
Students on the project: 6
iProjects Title: EcoCAR 3: Vehicle Dynamics Control in Plug-in Hybrid Electric Vehicles.
Project Duration: 2 semesters (Fall 2016-Spring 2017)
Students on the project: 6

PROFESSIONAL EXPERIENCE

AUG 2012-PRESENT	Assistant Professor *Arizona State University, Mesa, Arizona* Program of Engineering & Computing Systems, Ira A. Fulton's Schools of Engineering-Polytechnic School
DEC 2010- AUG 2012	Post Doc. Scholar *Clemson University, SC, USA* Automotive Engineering Department International Center for Automotive Research CU-ICAR,
AUG 2008- DEC 2010	Graduate Research Assistant *Clemson University, SC, USA* Automotive Engineering Department International Center for Automotive Research CU-ICAR,
MAY 2003- AUG 2008	Traffic Safety Engineer, Jordan Traffic Institute, Jordan/Amman,
MAY 2002- AUG 2003	United Nations Mission of Support in East Timor, Senior Automotive Engineer, UNMISET East Timor

MAY 1996- AUG 2002 Traffic Safety Engineer, Jordan Traffic Institute, Jordan/Amman

PROFESSIONAL ACTIVITIES AND SERVICE

Member of Editorial Board of Peer-Reviewed Journals

- **Associate Editor,** SAE-International Journal of Connected & Automated Vehicles, **2018-Present**. Impact factor: 1.0 (New Journal).
- **Editorial Advisory Board Member** of **International Journal of Latest Technology in Engineering, Management & Applied Science**. 2016. ISSN: 2278-2540. Impact Factor **3.47**.
- **Guest Editor, Special Issue, on "New Research on Modeling, Design, and Control of Electric Vehicles.** Impact Factor **3.23.**

International/national conference sessions chaired

SESSION CHAIR at SAE 2017 International Powertrains Conference. Session title: "Advanced Hybrid and Electric Vehicle Powertrains" (FFL710). 2017.

Reviewer Services for Peer Reviewed Journals

- Grand Award judge at the *2016* Intel International Science and Engineering Fair **Intel-ISEF** in Phoenix (2016).
- SAE 2016 World Congress and Exhibition 2016, Advanced Vehicle Technology Competitions, 2015, PFL760.
- International Journal of Energy Research, 2016
- Journal of Building and Environment, 2016.
- Journal of Membrane and Science, 2015.
- IEEE Symposium on Humanities, Science and Engineering 2013 (SHUSER 2013)
- International Journal of Sustainable Energy, 2013.
- SAE International Thermal Management Systems Symposium, 2012.
- International Journal of Hydrogen Energy, 2012.
- International Electric Vehicle Symposium, EDAS. 2011.
- SAE International Journal of Hybrid and Electrical Vehicles.
- SAE Technical Paper since 2012
- SAE International Journal of Fuels and Lubricants since 2012
- SAE Advanced Hybrid and Electric Vehicle Powertrains session since 2012.
- SAE International Journal of Commercial Vehicles since 2012.

University Level Committees

1- East Valley Advisory Board Member. 2014.
2- Volunteer for E2 camps ASU 101 Lesson Plan (2016).
3- Collaboration with Valley of the Sun Clean Cities Coalition.
4- Collaboration with National AFV Day Odyssey. 2014/2015/2016.
5- Participating in National Alternative Fuel Vehicle Day.
6- ASU Homecoming Event. 2014, 2015.

Engineering School Level Committees

1- The Polytechnic School-Automotive Curriculum Development Committee. 2012-Present.

2- Member Committee "The Polytechnic School Research Committee". 2012-2013.
3- Chair "The Polytechnic School Research Committee". 2013-2014.
4- Committee Member "University FURI Committee".
5- Revolutionizing Math Intensive Courses. The Polytechnic School. 2016/2017.
6- ASU-Poly EcoCAR Faculty Advisory Board.
7- The Polytechnic School Search Committee member for tenure track faculty in automotive engineering.

Professional Membership

- Member, American Society of Mechanical Engineers. **ASME**/since **2012**
- Member, Society of Automotive Engineers **SAE**/since **2008**
- Member, Jordan Engineer Association, **JEA**/since **1996**
- Member in the I**nternational Scientific Committee** for the first International Conference on Mechanical Engineering Sciences, Applied and Applications Jordan, **2016**.
- Member "**The Order of the Engineering**" ASU-National Program"/**2016**
- Member/Founder United States Universities Graduates Club **USUG**-Jordan/**2015**.

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