

# SAE ARIZONA • NEVADA SECTION

MEETING: Sep. 15

Section Web Site: [www.saearizona.org](http://www.saearizona.org) - Sign up for your newsletter on our website.

## HIGHLIGHTS...



- Phoenix Sky Train
- About Jason Lipscomb
- Message from the Chair
- Message from outgoing Chair
- Recap of March Meeting
- Upcoming SAE Events, Conferences
- Discussion of Tucson Sub-Section
- Meeting Schedule

### Phoenix Sky Train by Jason Lipscomb

Studies show that automated trains are the most efficient way to move people through airports. The PHX Sky Train™ may potentially result in more than 20,000 fewer vehicles per day at the Airport - nearly 20 percent of today's daily traffic - and significantly reduce curb congestion and pollution.

times, provide hassle-free travel in climate controlled vehicles and connect to the Valley's light rail and bus systems. Equally important, the PHX Sky Train™ will accommodate our region's future growth and be a welcomed addition to Sky Harbor's renowned customer service.

The PHX Sky Train™, free to the public, will run 24-hours with predictable travel times—arriving at stations about every three minutes during peak periods and delivering passengers to their destinations within about five minutes of boarding.

#### About Jason Lipscomb

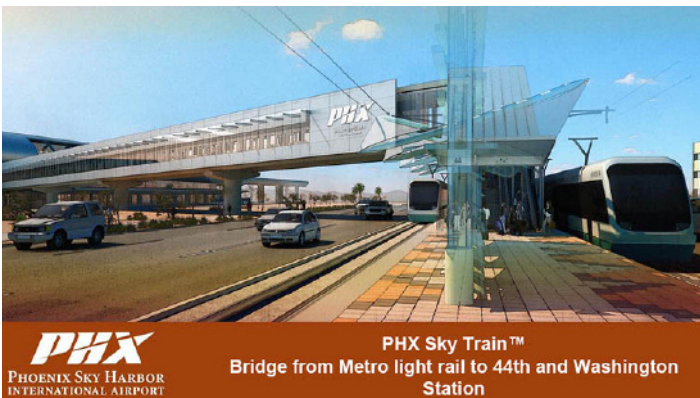
Sixteen years experience in the design and integration of Automated People Mover (APM) subsystems.

Bombardier 1995 - present, Manager, APM Vehicle Systems.

Manage and monitor engineering design aspects per project including the release of material for procurement/manufacturing as well as product support for APM Vehicles around the world. Functional areas include: Carbody design/assembly, Interior design, Vehicle Control, and Electrical System design. Additionally, support APM Vehicle Research and Development.

Principle Engineer: Responsible for all aspects of the braking, coupler, air supply, and suspension systems on Automated People Mover Vehicles and work closely with procurement and manufacturing. I also support project design and realization through the manufacturing and commissioning phases, incorporating Design Reviews and Quality Gates; Defect Tracking (root cause and action plan); and design hand-off to Manufacturing and Operations.

Manager, BES Implementation: Maximize the quality of Bombardier's engineering processes by supporting the development of the Bombardier Engineering System (BES) and managing the implementation of BES.



PHX Sky Train automated transport system at Sky Harbor International Airport

Stage One of the PHX Sky Train will transport Airport visitors and employees between METRO light rail, east economy parking and Terminal 4, which serves 80 percent of Sky Harbor's passengers. Construction will be complete in early 2013. Stage 1a, the extension to the remaining terminals, should be completed by early 2015. Stage Two, which will continue to the Rental Car Center, will be up and running in 2020.

A new gateway to Sky Harbor will be created at 44th Street and Washington. This station is just a short walk in an air conditioned pedestrian walkway from the 44th Street METRO light rail stop. For route details, visit the page at <http://skyharbor.com/about/PHXSkyTrainRoute.html>. The elevated train will help relieve traffic jams, reduce wait

DATE	TIME	LOCATION	COST With Dinner	Presentation Only
Sep. 15	Social	- 6:00 pm	Members - \$23	\$10
	Dinner	- 6:30 pm	Guests - \$27	\$10
	Presentation	- 7:30 pm	Students - \$12	no charge
			Payable by cash or check	
<b>RSVP by Monday Sep. 12 <a href="mailto:info@saearizona.org">info@saearizona.org</a></b>				

## **Message From the Chair**

It is a pleasure and an honor to serve as Chair of the Arizona Nevada section of SAE. I have been a member of SAE for 24 years. So it's time for me to step up and take on the Chair position.

I have not worked in the Automotive Industry, but I have had a love of cars since I was a teenager.

My career has revolved around Aerospace and Defense Industries. Being an active member in SAE gives me an opportunity to be part of the Automotive Industry vicariously and enjoy some great networking.

I could not have made it through the ranks of this organization without the help of numerous good people of SAE Arizona-Nevada Section. These are long-standing members of this organization with great knowledge, experience and a deep rolodex. My thanks to Bill Gest, John Lester, Don Robins, Bob Riley, Ron Weary, Josh Rudin, Mike Kremer, Dave Vasquez, Derek, Hal, Kevin, Allan, Howard Daudet, Steve Trimble... the list goes on and on.

That leads me to an opportunity -- we are currently in need of a secretary for this year. As secretary, you will meet, work with, and be supported by a great group of people, attend monthly board meetings, keep the board minutes, and contribute to the betterment of SAE. Too busy? It just takes one meeting per month and you can teleconference if needed. By the way, Board meetings are open to all – you can attend in person or via “Go to Meeting” – send us an email and we will put you on a reminder list for receiving your Go to Meeting invitation and code.

You might also enjoy being one of our coffee talk speakers. These are short 10-15 minute presentations on practically any topic. Although we welcome outside speakers, I prefer to hear the experiences of our members. It helps all of us to better know our membership, and all of you have undoubtedly worked on interesting projects. Please share your experiences and knowledge with us. Contact myself or Bill Gest and volunteer to give a talk or join the board.

Ron Weary, Dave Vasquez, and others have sent out a questionnaire to our fellow members in the Tucson area. We received a 16% response, which is good. The committee has been looking at joint meetings in Tucson, video conference meetings in Tucson (based in Phoenix), and also separate meetings there. There are some very enthusiastic SAE volunteers in Tucson that are meeting to determine which is the best option. The next planning meeting will be in Tucson on Sept. 7. Please see the last page for details.

The automotive industry is starting to turn around and this should bring about some interesting topics. Brent Hendrickson, Global Program Manager and Chief Engineer - Diesel Engines at General Motors, will be speaking at an upcoming meeting about a new small diesel. I am also in dis-



Larry Wilson - Chair

cussion with Toyota to bring in a speaker from Toyota Proving Grounds (Arizona). And SAE needs your active participation to remain a successful organization. Please join us for our first dinner meeting of the year on September 15th. We will have a speaker from Bombardier to talk about the Sky Train at Phoenix Sky Harbor Airport. I hope to see you there.

Larry Wilson  
Chair SAE Arizona - Nevada Section

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## **Message from the Outgoing Chair By Steve Atkins, PE**

It has been an honor and a privilege to be Chair for a year. I've been blessed by the support and friendship of a large number of core SAE members and past and present Section officers.

I could not have made it through the ranks of this organization without the expert help of numerous good people of SAE Arizona- Nevada Section. These are long-standing, even founding members of this organization with great knowledge, experience and a deep rolodex. My thanks to Larry Wilson, Bob Holso, John Lester, Bill Gest, Don Robins, Newsletter Editor Bob Riley, Ron Weary, Josh Rudin, Mike Kremer, Webmaster Dave Vasquez, Derek, Hal, Kevin, Allan, ... the list goes on and on (my apologies that I can't list all of you).

I believe we, as a Section, have had a pretty good year; we've enjoyed many informative speakers, have stayed financially solvent despite a drop in membership and revenues, and we have begun to reach out to our isolated brethren in Tucson, primarily due to the outreach efforts of Ron Weary.

I am looking forward to attending this year's meetings (all fun and no work) and I am sure we will have a thought-provoking lecture series over the next 8 months or more. And, from my vantage point at Northern Arizona University, I will strive to see that NAU's student SAE team is better represented at our Section meetings, especially in May, where the student vehicles are typically presented.

I want to welcome Larry Wilson and Bob Holso as incoming SAE Section Chairman and Vice Chairman, respectively. I know these guys will be of great service to our Section and they have been working throughout the summer to line up a series of great speakers for our pleasure and edification. I wish you guys the best and will do whatever I can to help. And I should point out that there is still an opportunity for some lucky member to actively participate in and serve this great organization by becoming an officer (Secretary) of the Section – please talk to Larry Wilson if you are interested. I did it, and I encourage you to do so as well, you will not regret it.

Good Luck and may you be blessed.

Steve Atkins, PE

## **Recap of May Meeting by Larry Wilson**

For our meeting on May 19, we were fortunate to have ASU SAE Mini Baja Team, ASU SAE Formula Team, ASU Polytechnic SAE Baja Team, and the U of A SAE Formula Team. The NAU SAE Mini Baja Team was not able to attend. Each attending team was presented a check from our Arizona SAE Section to support their ongoing projects.



The ASU Mini Baja Team is shown to the left. The results for the ASU Mini Baja 2010 Competition

were as follows:

- 42nd overall in SAE Baja West Competition (out of 100 registered teams)
- 8th in Cost9th in Rock Crawl
- 22nd in Maneuverability

For the 2011 Competition:

A brand new vehicle is planned with no components carrying over from last year's car. Plans are for:



ASU SAE Mini Baja Design for 2011 .

- 4130 Chromalloy steel tube frame chassis.
- Drivetrain layout:
- Motor ? CVT ? H-L-N-R Gearbox.
- Unequal length A-arm suspension front & rear.
- Dynamic 'on-the-fly' adjustable damping coil-over system front & rear.

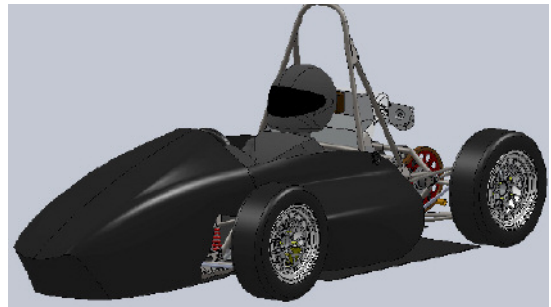
The ASU Formula Team offered an impressive presentation on the development of their Formula vehicle. The ASU SAE Formula Team is shown below.



ASU's SAE formula Team

At the top of the next page is the ASU SAE Formula vehicle as designed.

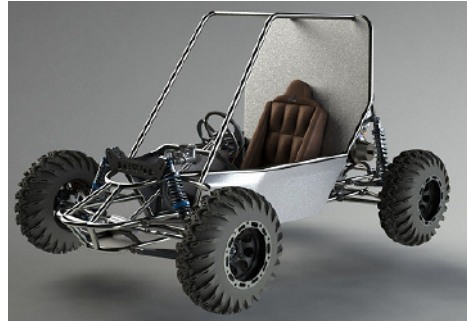
The 2010-2011 ASU Polytechnic Mini Baja Team consisted of John Capps, Ben Chavez, Johann Elbertse, Larry Harrell IV, John LaFata, Chris Newman and Andrew



ASU Formula Vehicle as Designed

Piotrowski. Their SAE Mini-Baja vehicle is shown below.

They are the 2010-2011 ASU Polytechnic SAE Baja team. They are competing in the SAE Baja Competition in



ASU Polytechnic 2010-2011 Mini Baja

Pittsburg, Kansas. They started their design in early August and lasted until early November when they began fabrication. Manufacturing and assembly was completed earlier this

month.

The University of Arizona Formula Team presented on their Formula Project.



- Competition Goals for the vehicle were as follows:
- Designed for weekend autocross enthusiast.
- 2000 car production.
- Only for track use
- Low cost

The U of A goals were as follows:

- Cheap
- Reliable
- Maintenance friendly
- In house manufacturing
- Finish endurance race
- Member retention

We had a nice presentation from the AWIM students.

The AWIM students were 5th Graders from Sierra Vista Elementary School. Their Principal Bryce McClellan and their Teacher Eric Atonna were there to show their support. The students presented on their development and build of the Jet Toy. They were enthusiastic and were looking forward to becoming Engineers.



**AWIM IN AZ**  
**by Don Robins**

The 2011/2012 AWIM school year is getting off to a great start. We have new schools interested in the AWIM program and Nissan and Orbital have expressed interest in supporting AWIM programs in AZ. Nissan Engineers from the Nissan Proving Ground Arizona Test Center will volunteer in a new AWIM program in Maricopa.

ASU Engineering students will again volunteer as part of the John Deere Learn Twice program. We had 20 ASU students volunteer during the 2010/2011 school year.

If you are interested in volunteering this school year, contact Don Robins at [drobins1137@msn.com](mailto:drobins1137@msn.com)

**Upcoming SAE Events, Conferences, and Symposia**

**SAE 2011 AeroTech Congress & Exhibition**

**When:** October 18-21, 2011,  
**Where:** Centre de Congres Pierre Baudis & Toulouse Expo, Toulouse, France

**SAE 2011 Brake Colloquium and Exhibition - 29th Annual**

**When:** New Orleans Marriott, New Orleans, Louisiana, USA  
**Where:** Westin Chicago River North Hotel, Chicago, Illinois, USA

**SAE 2011 North American International Powertrain Conference**

**When:** September 21-23, 2011  
**Where:** Westin Chicago River North Hotel, Chicago, Illinois, USA

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**DISCUSSION OF TUCSON SUB-SECTION**

**Tucson Connection Exploratory Committee**  
**SAE Arizona-Nevada Section**

Dr. Parviz Nikravesh      Curt Pedersen  
David Vasquez              Ron Weary

A small Exploratory Committee, including Tucson members, has been meeting to gauge the interest of Tucson area members in having SAE events planned locally. A brief survey was emailed to 100 members, 30 student members and 170 individuals with past interests in SAE. Pending favorable feedback and support from Tucson members, a subgroup of the Arizona-Nevada Section could evolve offering local events that would be closer for members to attend.

If you are interested in being part of the "Tucson Connection" and did not reply to the initial survey, please e-mail Dave Vasquez at [info@saeazizona.org](mailto:info@saeazizona.org).

**Arizona-Nevada Meeting Schedule**

- September 15, 2011	PHX Sky Train and Bombardier
- October 20, 2011	Synthetic Gasoline from Bio-wastes and Solar Energy
- November 17, 2011	Brent Hendrickson, Chief Engineer of GM's new small diesel
- January 19, 2012	Chris Long, the Orbital VP
- February 16, 2012	TBD
- March 15, 2012	TBD
- April 19, 2012	TBD
- May 17, 2012	AWIM & University Students



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