

## New Meeting Location (Information on Page 3)

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

### HIGHLIGHTS...

- |                          |                              |                                 |
|--------------------------|------------------------------|---------------------------------|
| - 2007 Infiniti G35      | - Recap of November Meeting  | - A World In Motion             |
| - Message from the Chair | - Recap of Las Vegas Meeting | - Maps for New Meeting Location |
|                          | - Presentation Champion      |                                 |

Dinner Presentation...

## 2007 Infiniti G35 Sedan by Steve Neese

The all new second generation Infiniti G35 takes up exactly where the 1st generation left off as a class leading balance of luxury, roominess, design, value, and most importantly, performance. As the most successful car in the history of the Infiniti franchise, the new G35 had to deliver on all of these points and then some. Competing in the ultra competitive entry luxury segment, the G35 has many tough opponents including what many consider to be the originator and leader of the segment, the BMW 3-series.

As the foundation of the G35 success, the dynamic performance was a key focus point very early on in development. Starting with the award winning VQ35 of the first G35, 80% of the parts were redesigned, including a new block casting, intake and exhaust system, along with many of the internal mechanical components. The final results for the 3.5L motor are 306hp and 268 ft\*lb of torque with an unusually high redline of 7,600 rpm for a 3.5L V6. The chassis was likewise improved though many of the traditional ways such as stiffer body structure, improved suspension geometry, and the like. However to separate itself from the rest of the class, a great deal of on- and off-road testing was done to find that

elusive perfect ride and handling balance.

From a static standpoint, this new G35 presented a greater challenge than usual. Interior quality was somewhat of a weakness of the first generation, and thus has been significantly improved for 2007 with the use of "washi rice paper" inspired aluminum trim, magnesium shifter paddles, and new white and violet electroluminescent gauges. In addition to this, the new G will also introduce many new Infiniti "firsts" into the market one of which is our "studio on wheels" audio system. This system features Burr Brown digital audio converters along with 10" front door speakers. Another new first for Infiniti will be the optional hard drive based traffic navigation system which also will have 9.5 gigabytes of space for music.

Guest speaker from Infiniti, Steve Neese, will focus more on some of the technical details of the new G35, along with some of the development highlights in January's meeting.

#### STEVE NEESE

Steve Neese is a project engineer with Nissan Technical Center North America and works at Nissan's Arizona proving ground in Stanfield, AZ. He is responsible for vehicle development and evaluation for the Infiniti G35. He has been with Nissan for 5 years and has worked on the G35 program for the past 4 years. In addition to his automotive activities at Nissan, Steve was one of three recent winners of the 2006 Jim Russell scholarship runoffs, and will be competing in a full season of the 2007 Formula Russell Championship.

Steve attended Mississippi State University and graduated with a bachelor's degree in mechanical engineering. During his time as a student, he was president of the MSU collegiate SAE section, and participated in the SAE mini-Baja competition 3 times. His team's best finish was 8th in the 2002 Midwest competition.



DATE	TIME	LOCATION	COST With Dinner	Presentation Only
Jan. 18	Social	- 6:00 pm	Members - \$22	\$10
	Dinner	- 6:30 pm	Guests - \$27	\$10
	Presentation	- 7:30 pm	Students - \$10	no charge
<b>RSVP by 10:00am Tuesday January 16.</b>			<b>Call Donna Miranda: 602.364.7456</b>	

## Message from the Chair

With 2006 behind us and a bright 2007 ahead, I'd like to wish everyone a happy new year! 2006 was a year of change for our section - in particular, we saw a few board members step down, changed hotel locations and updated our pricing. But within the winds of change, there is something steadfast - our fantastic dinner meetings!



Dave Vasquez, Section Chair

Unfortunately I was sent on a business trip and was unable to attend the E85 dinner meeting, but I hear it was very informative. I'd like to thank all the board members who helped fill in while I was away on business - it's the dedication and support of the AZ-NV board members that keeps dinner meetings running smoothly.

Looking ahead to 2007, Joshua Rudin will be attending the Section Officers Leadership Seminar (SOLS) in Florida, representing the AZ-NV section of SAE. It's a rewarding workshop that provides upcoming officers insight into SAE International activities, local section responsibilities and helps contribute to one's leadership potential. For those of you who were unable to attend the January 2006 meeting, the Arizona section hosted our January dinner meeting in conjunction with the SOLS event. It was the first time a local section dinner meeting had been combined with the SOLS conference and I'm told they will try this again in the future.

With the hustle and bustle of the holidays, it's easy to forget the engineering that goes into the products we buy, from kitchen appliances to electronics and even automobiles. Engineering that helps increase battery life on an electronic device, a new material used to fabricate a toy or a more refined engine that can provide additional power with less fuel consumption.

Speaking of engines and automobiles, we have a great program planned in January - the new G35 Infiniti Sedan. Thanks to Derek Logan, our Vice Chair of Student Activities, for coordinating this event. I look forward to seeing the newly redesigned vehicle and hearing if it's still the "Beamer beater."

In closing, I was browsing through the internet looking for an interesting quote and stumbled across the SAE website. I found a quote from our own Derek Logan, who sums up being a member best when he says "Formula SAE and Mini Baja were my best collegiate experiences. I am still learning, making new friends, and benefiting in my career through continued attendance at local section meetings, my participation on SAE's boards and committees, and by judging Mini Baja events." -Derek Logan

Best of luck to everyone in 2007!

Dave Vasquez  
Section Chair

## Recap of November Meeting

by Bill Gest

Clay Okabayashi - Fleet account executive for General Motors Government Fleets and Alternative Fuel vehicles provided an extremely timely presentation on General Motors efforts to provide alternative fuel vehicles.



Clay Okabayashi (left) and Bill Gest (right).

The world is consuming oil at a rate of 85 Billion barrels/day and the easy to find and pump oil is at an end. 25% of this consumption is by the United States. Compounding the issue is the fact that the US is importing over 65% of our oil,

mainly from countries that do not like us.

Imagine the change in our economy and quality of life if suddenly, these oil imports were shut off due to political or economic conditions. With the tremendous growth in China and India for oil, the stage is set for global energy supply crisis.

The time is now to look at alternatives to the oil-based energy supply for transportation. General Motors has taken a lead in developing and producing vehicles that can run on E85 as an alternative to gasoline.

What is E85? E85 ethanol is an alternative fuel consisting of 85 percent ethanol and 15 percent gasoline. In the US, ethanol is typically produced from corn and other grain products, although in the future it may be economically produced from other biomass resources such as agricultural and forestry waste or specially grown energy crops. Ethanol has superior performance characteristics (higher octane), burns cleaner than gasoline and is a renewable domestic, environmentally friendly fuel that enhances the nation's economy and energy independence.

A misconception with ethanol is that it takes more energy to create than what is produced. The fact is ethanol is a renewable resource that yields a positive energy balance. Studies from DOE Argonne National Laboratory have shown that biomass feedstocks produce 6.8 BTU's of energy for every BTU of fossil fuel consumed. One downside is there is a approximately 25% loss in fuel economy (miles per gallon) using ethanol.

GM and other domestic car makers have built over 4 million vehicles to date that are designed to use E85. GM is incorporating E85 capabilities in its full size SUV's and pickups along with the Chevrolet Impala and Monte Carlo cars for 2007. GM is also actively working to promote the availability of E85. Since E85 cannot be transported via normal gasoline pipelines, its availability has been limited to areas in the country where ethanol is being produced. Efforts are underway to build 48 additional ethanol processing plants to

compliment the 106 existing plants. Only recently has a legislative bill been passed to allow sales of E85 in Maricopa County.

We need to all do our part and help to promote this solution to our energy problem. We want to thank Clay for giving us an excellent presentation on this topic.

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### *Recap of Las Vegas Meeting* by Bill Gest

Our first SAE section meeting in Las Vegas in a number of years was held November 1, 2006. We had a total of 16 in attendance at the Greek Isles hotel. We had active participation from students from both University of Arizona who were attending the SEMA convention and also from the local University of Nevada-Las Vegas SAE student chapter. In addition, several people attended who were there for the SEMA convention. We also had several local SAE members attending. Once again, Dale Ambrose from Sea Launch did a great presentation on launching communication satellites from a converted oil platform and at the equator. A short presentation was also made by the students.

We hope to make the Nevada meeting an annual event. One suggestion is to have the meeting at the UNLV campus to reduce the costs and avoid some of the convention traffic. We would like our Nevada members suggestion on next year's meeting.



Las Vegas Meeting.

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### *Presentation Champion* by Derek Logan

Have you been thinking of joining the Board, but don't want to commit an entire year? Or maybe you'd like to help out, but only for one presentation??

Well, we have just the ticket for you! We are introducing a new position of "Presentation Champion". For just one meeting you will help out by introducing the speaker and providing a brief article about the presentation afterward. This is a great way to get involved without a long-term commitment. It is also a great opportunity to get to meet one of our highly-knowledgeable presenters.

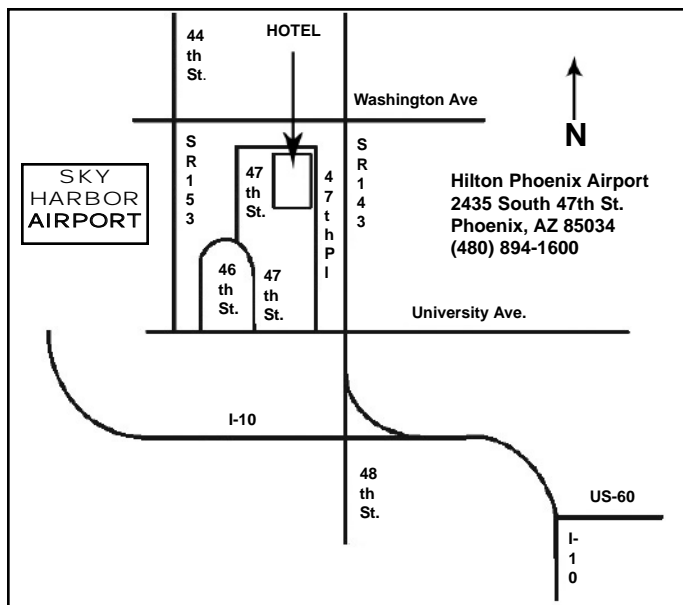
You can do it as often as you like; just sign up for whichever presentation is still available.

Note: This opportunity is open to all SAE members including Student members.

Call 602-616-8180 or send an email to [info@saeazona.org](mailto:info@saeazona.org) to sign up.

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### *\*\*\* Meeting Location \*\*\**



*Meeting will be on the 2nd Floor, in the room named \*\*\*\*Palo Verde\*\*\*\**

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### *A World In Motion*

A World in Motion has been set up to enlighten youngsters about careers in science and engineering. Demand has been high--engineers are needed to go to local schools for a one-hour presentation. Please contact Joshua Rudin at 602.369.6487 for more information.



ESG Engineering has Industrial Design, CAD Design and Engineering Analysis capabilities including Stress, Dynamics, Fluids and Thermal. We also sell Z Corp rapid prototype printers, scanners and SensAble software. We are located in Tempe. [www.esgeng.com](http://www.esgeng.com) How can we help you? Contact Bill Gest at 602-618-1304 for information.

THE UNIVERSITY OF ARIZONA ANNOUNCES:

THE 33rd ANNUAL RELIABILITY TESTING INSTITUTE  
May 7-10, 2007

The 44th Annual Applied Reliability Engineering and Management Institute provides all engineers, and particularly Reliability Managers and Engineers, and Product Assurance Managers and Engineers in government and Industry a working knowledge of Reliability Engineering Theory and Practice; Mechanical Reliability Prediction; Reliability Testing and Demonstration; Accelerated Testing; Failure Analysis Techniques; Complete Industry Product Assurance Techniques; Maintainability; Customer Satisfaction, Strategies to provide the tools required to design, test and manufacture products which are highly reliable with minimum if any product recalls, easy to maintain, safe and less costly to operate, and sold at globally competitive prices, plus many more! Numerous practical applications of these methodologies are presented. This Institute will also prepare and help participants pass their ASQ Certified Reliability Engineer (CRE) Examination.

Clarion Hotel, Tucson Airport  
6801 S. Tucson Blvd.  
Tucson, Arizona 85706  
520-746-3932 or 800-526-0550

Registration Fee: \$1500      Proceedings Cost: \$50

*For Details and Technical Information, please write to:*  
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Please peruse his website at: <http://www.arizona.edu/~dimitri>

The 33rd Annual Applied Reliability Testing Institute provides coverage of how to implement and manage the Design-for-Reliability process through testing; to implement an integrated Reliability & Maintainability Engineering management strategy; a practical approach to attain the high Reliability goals demanded nowadays; to improve our world-wide competitive posture by creating more Reliable products through testing; solder joint durability and their useful life estimation; the determination of the time-to-failure distributions, failure rates, mean lives, reliabilities, and their confidence limits at desired high confidence levels; small-sample-size, high reliability, short-duration, efficient tests; non-parametric testing; test duration, sample size, and number of failures determination; HALT and HAST; burn-in testing, Qualification and Reliability Demonstration Testing; failure analysis technologies; product assurance techniques for becoming more competitive in today's markets; development cycle time reduction; productivity improvement techniques to achieve U. S. leadership in world markets; all types of goodness-of-fit test; determination of the confidence limits of the actual Reliability, Mean life and Failure Rate of all types of components, products and systems at high confidence levels; solutions to participants' problems; plus much more.

## ARIZONA-NEVADA SECTION: Meeting Schedule

January 18	- Infiniti G35 Sedan
February	- Sterling Energy
March	- Sky Harbor AP

THE 44th ANNUAL APPLIED RELIABILITY ENGINEERING  
AND MANAGEMENT INSTITUTE  
November 13-16, 2006

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