



## Contents:

Fuel Cell Challenge Introduced at Detroit Auto Show .....	1
AWIM Challenges Showcased .....	2
Workshops Teach Concepts of Physical Science .....	2
Students Compete for JetToy Speed and Distance.....	2
Power of One – Never Underestimate the Impact .....	3
Workshops and Conferences .....	4

## Fuel Cell Challenge Introduced at Detroit Auto Show

The Fuel Cell is the latest challenge in the *A World In Motion®* program developed by SAE International in partnership with the GM Foundation and other corporations in the automotive industry.

To survive and thrive in the society of tomorrow, our children need educational preparation that builds upon the technology of today. The latest program will play a key role in helping to introduce students to the fundamental skills necessary for a future career in science, technology, engineering and math (STEM).

Students from Heilmann Middle School and South Lyon East introduced their fuel cell cars at the GM/SAE press conference during Education Day at the North American International Auto Show in Detroit on January 21, 2009. "I wanted them to think outside the box, and they did a wonderful job coming up with some amazing ideas," stated Tim Cavanaugh, Marketing Product Manager for GM. By doing so, these students exceeded expectations and set the bar for the Fuel Cell Challenge extremely high.

AWIM® students are given a model car kit complete with a hydrogen fuel cell, chassis, battery pack and other parts needed to build a Fuel Cell Challenge car.

In order to promote STEM education, the SAE Foundation provides a limited number of free classroom kits to qualifying teachers. Those who currently teach grades six through eight and have a partner in a STEM profession who is willing to dedicate time assisting in the classroom, may complete an application for the fuel cell materials. The AWIM Fuel Cell Challenge is also available for purchase.

For more information please visit [www.awim.org/fuelcells](http://www.awim.org/fuelcells)



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## AWIM Challenges Showcased

A World In Motion® was represented during the Association of Christian Schools International in Mesa, Arizona. Participants included over 70 educators with representation from 40 schools. The workshops were enthusiastically received by teachers who were introduced to AWIM® for the first time. The excitement continued as participants learned to put gears together to increase speed or climb a grade with the Motorized Toy Car Challenge. Positive comments about all of the AWIM challenges and practical classroom experiences were shared by the attendees.



## Workshops Teach Concepts of Physical Science

Twenty-six AWIM® volunteers along with seven SAE members and eight teachers have taken advantage of formal training workshops offered during a two-day period. Under the direction of Ken Francis, Program Developer for A World In Motion®, attendees learned concepts of physical science by engaging in hands-on activities involving the Motorized Toy Car and Glider Challenges.

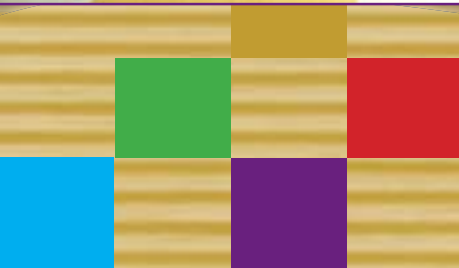
A big "thank you" to Mr. Don Robbins who continues to coordinate retirees in the Phoenix area to commit as mentors to the AWIM program. Mr. Robbins, a retiree from General Motors, is the recipient of the Bill Agnew Award for Outstanding Volunteer.



## Students Compete for JetToy Speed and Distance

Fifth graders in the French as a first language Ecole Riviere Castor School in Ontario, Canada built and tested the JetToy car. The students competed in categories that included fastest car and longest distance. Each team tested the variables with respect to the size of the tubes used. Immediately, students noticed that some cars worked better than others. Upon investigation they discovered that some teams had used the wider tubes and others the narrow tubes. The teams that chose the narrow tubes were having greater success with speed. This led to a flurry of activity as kids clamored to change to the narrow ones! The students then pitted their cars against each other to see which car could go the farthest.

This activity was especially exciting and immediately captivated the kids' attention. Teacher Joyce Chartrand said, "I saw them sharing ideas and giving each other suggestions, rather than just focusing on their own success." Several educators, including Joyce Chartrand, took advantage of the opportunity to attend the A World In Motion® workshop during the Science Teachers Association of Ontario (STAO) Annual Conference.





# Power of One Never Underestimate the Impact

Written by: **Russ Burgei**  
Engineering Executive Director, Customer Business Unit – NA Seating  
Johnson Controls

One isn't a lonely number when it comes to *A World In Motion®* in the Plymouth-Canton Community School District (PCCS). As a matter of fact when it comes to AWIM®, one = thousands.

It all started with one simple presentation given to a group of engineers. The presentation caught the attention of an engineer with a desire to give back to the community. The introduction of the program to his peers and several calls to local schools resulted in a meeting with one educator at the Plymouth-Canton Schools.

The educator had a vision and passion similar to the engineer's – to have a program that was not just in a few classrooms, but was district-wide and would benefit the children involved by bringing them practical science concepts. In order to gauge the potential for such an endeavor, they agreed to conduct a "pilot" program for the district. When the "pilot" was all said and done, more than 600 students had received the AWIM program and more than 75 volunteers had joined the ranks of AWIM.

Success of the program continued with the first district-wide initiative of AWIM for 3rd and 5th grades of the school district – 2 grade levels, 16 schools and 50 classes each – which will impact more than 2,500 eager to learn students in the 2008/2009 school term. SAE's AWIM program is integral to the educational experience as it was designed with Michigan's standards in mind and directly replaced the teaching principles on force, friction and motion.

Being district-wide offered many advantages and challenges along the way. In order to accommodate a program of this magnitude, it requires coordinating more than 150 volunteers from no less than 12 companies. Volunteers are customers, competitors and suppliers alike who are collaborating to make this educational experience memorable for the students involved. These volunteers are enjoying the reward of passing on their passion for engineering to our next generation of scientists, technicians and engineers.

If you are a volunteer and believe you are just one volunteer, stop and remember this story - The Power of One. You can be that one that will impact thousands either by direct activity to the program or by inspiring a friend or coworker to volunteer. Keep in mind: one = thousands when AWIM is involved. Who have you talked with lately about volunteering?



**The following are A World In Motion workshops/conferences/  
events for February and March:**

**February 3, 2009**

Pontiac, MI  
Powertrain Bldg  
B Kettering Conf. Rm C&D  
Skimmer/JetToy Challenge  
8:00 a.m. – 10:00 a.m.  
[gena.ghiardi@gm.com](mailto:gena.ghiardi@gm.com)

**February 5, 2009**

Bowling Green, KY  
Skimmer/JetToy Challenge  
Glider Challenge  
8:00 a.m. – 1:30 p.m.  
[gena.ghiardi@gm.com](mailto:gena.ghiardi@gm.com)

**February 5, 2009**

GM Tech Center  
Warren, MI  
Rm 2AF-25  
Refresher Training  
Skimmer/JetToy Challenge  
8:00 a.m. – 10:00 a.m.  
OR  
Skimmer/JetToy Challenge  
11:00 a.m. – 1:00 p.m.  
OR  
Skimmer/JetToy Challenge  
2:00 p.m. – 4:00 p.m.  
[gena.ghiardi@gm.com](mailto:gena.ghiardi@gm.com)

**February 10, 2009**

Parma, OH  
Skimmer/JetToy Challenge  
10:00 a.m. – 2:00 p.m.  
[gena.ghiardi@gm.com](mailto:gena.ghiardi@gm.com)

**February 12, 2009**

GM Tech Center  
Warren, MI  
Rm2AF-25  
Skimmer/JetToy Challenge  
8:00 a.m. – 11:00 a.m.  
  
Motorized ToyCar Challenge  
12:00 p.m. – 3:00 p.m.

Glider Challenge  
3:30 p.m. – 5:30 p.m.  
[gena.ghiardi@gm.com](mailto:gena.ghiardi@gm.com)

**February 17, 2009**

Lordstown, OH  
Lordstown Complex  
Skimmer/JetToy Challenge  
10:00 a.m. – 1:00 p.m.  
Teachers/Volunteers  
[gena.ghiardi@gm.com](mailto:gena.ghiardi@gm.com)

**February 23, 2009**

Torrance, CA  
186th Street School  
Skimmer/JetToy Challenge  
8:00 a.m. – 12:00 p.m.  
[gena.ghiardi@gm.com](mailto:gena.ghiardi@gm.com)  
[susan.underhill@tema.toyota.com](mailto:susan.underhill@tema.toyota.com)

**February 25, 2009**

Milford, MI  
Milford Proving Grounds  
JetToy/Skimmer Challenge  
8:00 a.m. – 11:00 a.m.  
  
Motorized Toy Car Challenge  
11:30 a.m. – 1:30 p.m.

Glider Challenge  
1:30 p.m. – 3:30 p.m.  
[gena.ghiardi@gm.com](mailto:gena.ghiardi@gm.com)

**February 26, 2009**

Warren, MI  
Warren VEC  
Fuel Cell Training  
Volunteers  
8:00 a.m. – 11:00 a.m.  
OR  
1:30 p.m. – 4:30 p.m.  
[kfrancis@sae.org](mailto:kfrancis@sae.org)

**March 2, 2009**

Spring Hill, TN  
Web Ex Training  
Motorized Toy Car Challenge  
8:30 a.m – 11:30 a.m.  
[gena.ghiardi@gm.com](mailto:gena.ghiardi@gm.com)

**March 12, 2009**

Toledo, OH  
Web Ex Training  
Skimmer/JetToy Challenge  
8:00 a.m. – 10:00 a.m.  
[nalducci@sae.org](mailto:nalducci@sae.org)

**March 16, 2009**

Phoenix, AZ  
Web Ex Training  
Fuel Cell Training  
Time TBD  
[kfrancis@sae.org](mailto:kfrancis@sae.org)

**March 19, 2009**

NSTA Conference  
New Orleans, LA  
All workshops in Rm 211  
No pre-registration required  
to attend any of the workshops  
JetToy Challenge  
7:30 a.m. – 9:00 a.m.

Skimmer Challenge  
9:30 a.m. – 11:00 a.m.

JetToy Challenge  
11:30 a.m. – 1:00 p.m.

Skimmer Challenge  
1:30 p.m. – 3:00 p.m.

Glider Challenge  
3:30 p.m. – 5:00 p.m.  
[nalducci@sae.org](mailto:nalducci@sae.org)

**March 19-21, 2009**

NSTA Conference  
New Orleans, LA  
Visit AWIM Booth #1413



**AWIM Program Staff**

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Program Developer  
K-12 Education Programs
- Chris Ciuca**  
Program Developer  
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- Linda Cavanaugh**  
K-12 Administrative Assistant
- Darlene Geweth**  
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Assistant

For consideration in a future issue please tell us what you are doing with AWIM in your classroom. Articles/photos should be sent to:

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Warrendale, PA 15096  
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To make a contribution to the SAE Foundation, visit their website at <http://www.saefoundation.org>