



## **CHAM Product Update**

*Pioneering CFD Software for Education & Industry*

### **F1-VWT - Student Affidavit**

**Fred Stillwell, F1 in Schools In Country Coordinator  
East Cobb Middle School, Georgia BEST, USA**

December 28, 2009

As a fourteen year old I would never have expected to be using CFD software to design miniature Formula One cars, and would expect even less to have been presenting my finding to a panel of judges at the International Autosport show in Birmingham England. Five years later my knowledge of CFD software has taken me around the world multiple times, introduced me to major F1 leaders, provided me with an internship at an aerospace firm, and given me the opportunity to share this technology with hundreds of other students.

Since that first World Championship at the Autosport show our teams have competed in three other World Championships; in Australia, Malaysia and London, and have even held F1 In Schools races at two United States Grand Prix. One such Grand Prix race brought on a race between our team and a small team of Ferrari engineers headed by Ross Brawn himself.



Left: Team Hybrid USA and Scotland Team at the F1 in Schools World Championships in Kuala Lumpur, Malaysia 2008

Below: Flying Cougars F1 in Schools team, racing Ross Brawn at 2006 US Grand Prix

My role on the team was that of CFD engineer, I did aerodynamic analysis on every car developed by all of our teams helping them to better understand which designs worked and which ones didn't.





Our teams did almost all of our aerodynamic testing using CFD software from CHAM, testing dozens of designs and dozens more variations of each design to reach a final product. But we didn't just do this for our teams, our school had the resources and the knowledge to help multiple other teams from surrounding schools, and in addition to our teams we also trained hundreds of students from other schools how to design, analyze and manufacture F1 in Schools cars.

Over those five years working with CFD in F1 in Schools my interest in the field of aerodynamics continuously grew. It influenced me to take more engineering oriented classes in high school, to do research in the field of aeronautics and to apply to jobs and universities with an engineering focus. My senior year of high school I secured an internship at SpaceWorks Engineering Inc. a company that does research work for NASA and companies like Lockheed Martin. At this job, I was able to easily enter a professional environment and actively work on their CFD software writing a tutorial for the company on their new CFD and GUI software, using my previous experience with CHAM software.

My final steps of high school involved applying to colleges. Because of my experience, both in F1 in schools and my internship, I was accepted to every school I applied to, including multiple top colleges in the United States as well as City University of London's Automotive and Motorsport Engineering Program.

*Tyler Gagat*

2 images of our 2007 cars modelled using the PHOENICS F1-VWT

