

## Best Links:

- [HUNCon](#)
- [SEFH](#)
- [Learning About Energy](#)
- [TAME](#)

## Inside Stories:

Learning About Energy	5
TAME Trailblazer	5

## Backpage Story:

HUNBlog – A  
Teacher's Perspective

A Newsletter from the Houston Urban Network for Science, Technology, Engineering and Mathematics ([HUNSTEM](#))

## HUNCon: Building A Better Learning Community For Houston

**Houston** is a vibrant learning community with eclectic resources, but it is often difficult for the many members of the community to communicate and share resources. If we all come together we can find ways to [Build a Better Learning Community for Houston](#).

[HUNCon: Building a Better Learning](#)

[Community for Houston](#) is a conference on how to bring professional societies, informal science centers, government organizations, businesses and industry together with schools, teachers and families to improve [STEM](#) education.

There will be speakers and presentations from teachers and [STEM](#)

professionals. Professional societies, informal science centers, government organizations and industry groups that offer resources for [STEM](#) education locally will have exhibits and offer workshops. Teachers and school administrators will participate with representatives of these groups in round table professionals in round

*Continued on page 2*

## Science and Engineering Fair of Houston: 50th Anniversary Year

The Science and Engineering Fair of Houston ([SEFH](#)) is celebrating its **50<sup>th</sup> year**, and we'd like to help you bring the science fair to more of your students so they will have the opportunity to participate in this exciting event!

**HUNSTEM** (Houston Urban Network for Science, Technology, Engineering and Mathematics) is working with The Greater Houston

Partnership (**GHP**), The Engineering, Science and Technology Council of Houston (**ECH**), and The Houston Museum of Natural Science (**HMNS**) to help increase participation in the **50<sup>th</sup> Science and Engineering Fair of Houston**.

We can help teachers and school administrators connect to **STEM** professionals in their area. We can help teachers

organize and run science fairs in their schools. We can help students find mentors and facilities in their communities. And, we can help find judges for your school's fair.

Science Fairs support the **Texas Essential Knowledge and Skills** and thereby the **TAKS**.

*Continued on page 2*

## HUNCon Information (continued from page 1)

table discussions on topics in **STEM** education. Families will also participate with teachers and **STEM** professionals in round table discussions.

**HUNCon** will be held

**February 19th through the 21st, 2009:**

Orientation and social mixer Thursday evening with concurrent themed sessions Friday and interactive workshops

Saturday morning, plus field trips Saturday afternoon.

**Registration** in the **UHD** Academic Building, 3rd floor: Friday morning from 7-noon.

**Welcome and orientation** in the **UHD** auditorium: Friday morning at 9 a.m.

All sessions will include presentations followed by

round table discussion. Workshops will be mediated by **STEM** professionals and will provide hands-on learning opportunities. Presentations and discussion will differ between sessions, but topics will be repeated so that conference participants can participate in each theme. Different sessions for each theme are organized

*Continued on page 3*



***“We need you to be a part of this exciting event!”***

## SEFH (continued from page 1)

From the Texas Administrative Code (TAC), Title 19, Part II, Chapter 112. Texas Essential Knowledge and Skills for Science:

and weaknesses using scientific evidence and information.

- In Biology, Chemistry, and Physics students conduct field and laboratory investigations, use scientific methods during investigations, and make informed decisions using critical-thinking and scientific problem-solving.
- Investigations are used to learn about the natural world. Students should understand that certain types of questions can be answered by investigations, and that methods, models, and conclusions built from these investigations change as new observations are made
- In understanding scientific processes the student uses critical thinking and scientific problem solving to make informed decisions. The student is expected to analyze, review, and critique scientific explanations, including hypotheses and theories, as to their strengths

The **SEFH** is the second largest regional fair in the U.S. with the largest number of exhibits actually displayed on the exhibit floor. Over **1300** students from **142** schools in the Greater Houston Area entered this rigorous and exciting competition in 2008. The 20 Categories include all areas of Science, Technology, Engineering and Mathematics (**STEM**) including our newest category: Energy & Transportation.

This year's fair should be the biggest ever! We need participation from more schools and more school districts. There's no reason why every school can't participate!

**As a leader for STEM education in your school, you can help us build our future by giving your students the experience of a lifetime!**

*Continued on page 4*



## HUNCon Schedule of Events (continued from page 2)

around varying topics to help you decide which sessions you'd most like to participate in. Workshop themes are organized around the same topics to give you a chance to "put your words into action!"

**Presentations and roundtable discussions depend on you!** Please let us know how you'd like to participate or suggest additional themes and topics [here](#).

**Friday morning sessions** (concurrent) from 9:30 to 11:30 a.m.

- **The Gathering Storm:** Workforce needs and **STEM** education.
- **Building STEM Communities:** How can **HUNSTEM** help you?
- **STEM in the Classroom:** Strategies and Resources for hands-on learning.
- **STEM Pedagogy:** How does the brain work, and how can we teach so that students will learn?

**Lunch** from noon to 1 p.m. at **UHD**: Keynote speaker (to be arranged, [let us know who you'd like to hear from!](#))

**Friday afternoon sessions** (concurrent) from 1:30 to 3:30 p.m.

- **The Gathering Storm:** Houston's Learning Community, resources for collaboration.
- **Building STEM Communities:** Informal Science Education, how can we work together?
- **STEM in the Classroom:** Visitors in the classroom, what do teachers need from the larger learning community?
- **STEM Pedagogy:** What is Constructivism and can it really work in today's classroom?

**Dinner** from 5:30 to 7 at **UHD**: Keynote speaker (to be arranged, [let us know who you'd like to hear from!](#))

**Saturday morning interactive workshops** (concurrent) from 9:30 to 11:30 a.m.

- **The Gathering Storm:** The Global Marketplace and the future of **STEM** education.

- **Building STEM Communities:** Professional Societies, Industry, and Government Agencies: Can we all work together?
- **STEM in the Classroom:** Issues and practices inhibiting inquiry, how can we overcome them in the classroom?
- **STEM Pedagogy:** Can you "teach to the test" and still achieve **STEM** literacy?

**Poster session** from 9 a.m. Friday morning to noon Saturday: any topic in **STEM**, for anyone in the **STEM** community (that includes all k-12 students, pre-service teachers, classroom teachers, informal educators, etc.)

**Exhibits** in the **UHD** Academic building from 9 a.m. Friday morning to noon Saturday (Please apply for exhibitor status [here](#).)

**Field Trips:** Saturday afternoon from noon to 2 p.m. (box lunch provided for all field trip participants, for more information about field trips and to register please go [here](#).)

### Early Registration is now open!

Registration is free for preK-12 teachers, students and their families. All other visitors will be charged \$50. Payment can be made on-site or by contacting [Brad Hoge](#).

Advanced registration is appreciated.

Exhibitors can also register [online](#) or print a registration form [here](#).

Non-profit organizations can exhibit at **HUNCon** free of charge. Business and industry exhibitors will be charged \$150. Tables, electricity and assistance can be arranged. Please indicate your needs on the registration form.

*Continued on page 4*

## SEFH (continued from page 3)

Watch the introductory video, and pass it along:

<http://www.wrksolutions.com/video/HoustonScienceEngineeringFair.WMV>

*(produced with help from the Houston-Galveston Area Council and Texas Workforce Solutions)*

Visit the website to find a timeline for participation and to learn more about the **SEFH**:

<http://hunstem.uhd.edu/SEFH>

Contact:

Larry Spears ([spearsl@uhd.edu](mailto:spearsl@uhd.edu)),

Brad Hoge ([hogeb@uhd.edu](mailto:hogeb@uhd.edu)),

or Mary Jo Parker ([maparker@conroe.isd.net](mailto:maparker@conroe.isd.net))

for more information or with any questions.

---

*"This year's fair should be the biggest ever!"*

## HUNCon (continued from page 3)

[Submit Your Abstract Online](#)

[Submit Your Workshop Online](#)

[Register Your Exhibit Online](#)

You can also go to the conference website to submit an abstract or suggest a Speaker, Round Table, Workshop or Field Trip:

<http://hunstem.uhd.edu/HUNCon>

You can also print the forms and send them by e-mail to [Brad Hoge](mailto:Brad Hoge) or regular mail them to:

**Brad Hoge**, Director of **HUNSTEM**  
University of Houston - Downtown  
One Main St., Suite N725  
Houston, TX 77002-1001

We will also have a number of field trips on Saturday to places like the Houston Museum of Natural Science, The Children's Museum and the Museum of Health and Medical Science.

Sign up for **HUNCon** field trips [here](#).

Or [suggest](#) a field trip you'd like us to plan!

There is also room for interactive exhibits at **HUNCon**.

The Texas Alliance for Minorities in Engineering (**TAME**) **Trailblazer** will also be available at **UHD** during **HUNCon**! The [Trailblazer](#) is a trailer full of hands-on STEM activities. Be sure to check it out!

**WE HOPE TO SEE YOU AT HUNCON:**

**BUILDING A BETTER LEARNING COMMUNITY FOR HOUSTON!**

**LET A FRIEND KNOW ABOUT THIS CONFERENCE**




---

**"Presentations and roundtable discussions depend on you!"**

## Learning About Energy

What is the Energy Industry?

Why is it important for Students to learn about Energy?

How does Houston benefit by being the Energy Capitol of the World?

What is the role of the Energy Industry in the U.S. and the World?

How can better understanding of Energy and the Energy Industry benefit Students, and You?

How can Student's Understanding of Energy benefit Society?

How can You Teach about Energy so that your Students will Learn?

These questions can all be answered by

[Learning About Energy](#)

developed by **HUNSTEM** for the Galveston-Houston Area Council (**H-GAC**) and the **Texas Workforce Board**.

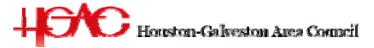
The world has become more competitive with the U.S. both economically and in quality of education.

At the same time, our education system has

failed to produce the needed workforce for technical and professional needs.

We must "Rise Against the Gathering Storm" to meet the demands of the future.

Find out why you should teach about energy, how learning about energy fits in the TEKS, where local, state and national resources for teaching about energy can be found, and why teaching about energy is good for your students, for Texas, and for our country.



## TAME Trailblazer

Founded in 1976 by concerned Texas industrialists and educators, the **Texas Alliance for Minorities in Engineering (TAME)** focuses on increasing and strengthening participation in the engineering, scientific and computer science professions.

**TAME's** founders were concerned about the low minority representation in the fields of engineering and sciences. Women make up 12.1% of the nation's practicing engineers; by contrast, more than half the total U.S. population is female.

Fewer than 9.5% of engineering professionals are African American, Hispanic American or Native American, but these minority groups represent over 25% of the populace.

**TAME** reaches thousands of Texas elementary, middle and high school students each year through a system of 16 alliances.

Each **TAME** alliance works independently in its own community, ensuring that local resources are maximized and local needs are met. There has

been a 101% increase in minority freshmen enrollment and a 92.8% increase in female enrollment in the 19 Texas university engineering programs since 1976.

This increase in enrollment reflects the efforts of **TAME** and other groups working toward expanding the number of underrepresented minorities and women entering in and graduating from engineering degree programs.

Check out [TAME](#)

And the [TAME Trailblazer](#)



## HUNSTEM

University of Houston  
Downtown

One Main St., Suite N725  
Houston, TX 77001

PHONE:  
(713) 221.8289

FAX:  
(713) 221-8528

E-MAIL:  
hoge@uhd.edu

We're on the Web!

See us at:

<http://hunstem.uhd.edu>

## HUNBlog: A Teacher's Perspective

Whenever I tell people that I'm a math teacher, the majority of the responses I receive are "Ugh! I hate math" or "I could never teach math – I'm no good at it". One thing is for sure, I certainly have job security! Same is true with science teachers. Math and science teachers are so scarce that most districts offer stipends for math and/or science teachers.

There's no denying that math and science have a bad reputation. I often hear other non-math teachers commenting on how bad they are at math or how much they dislike science in front of their other students, without realizing that, consequently, they are also inadvertently telling their students that they do not need math or science to be successful in life. I think that sometimes we don't realize what an impact our comments have on students' opinions and perceptions.

At my school, we have a reading program, which allots 40 minutes every day for all

students to sit and read silently to themselves. All teachers and staff are expected to support this reading program and encourage their students to read as often as possible. The teachers, myself included, generally seem to be supportive of this reading program, as all agree that students need to be literate and well read.

This year the TAKS tests were spaced out in such a way that my school decided to dedicate one full day for all teachers to help students study for their science test and another day to help students study for their social studies test. We were provided with specific, detailed lessons, including answer keys, for each class period and simply had to do the lessons with the students. Several of my fellow teachers did the social studies lessons but refused to do the science because they either didn't feel comfortable with the lessons or because they just

didn't think it would make a difference. I don't understand how the same various content-area teachers who take 40 minutes out of their every day to encourage students to read can then turn around and be so un-supportive of the science department or make comments to their students about how much they hate math.

Math and science are often naturally difficult for students to understand and enjoy, and teachers' negative references and attitudes toward these subjects only worsen the situation, in my opinion. As educators, I feel that we all need to be supportive of our students' overall education, including all subjects and classes. Just as we need to encourage our students to become literate, all teachers need to encourage their students to be successful in math and science, regardless of their own personal opinions about the subjects.

*Jessica Keen*

### About HUNSTEM

We believe that inquiry-driven, problem-based STEM (science, technology, engineering and mathematics) lessons are the best teaching method to attain increased science literacy. HUNSTEM will promote the use of inquiry-driven, problem-based science curricula in all classrooms in the Houston area. HUNSTEM will encourage problem-based curricula through collaboration between teachers, school administrators, curriculum directors and developers, and the ISE and professional resources of the Houston community. HUNSTEM will spread the message of inquiry-driven, problem-based science throughout the Houston area by establishing a vanguard of effective teachers who will encourage and support beginning and science-shy teachers in their schools. HUNSTEM will provide the resources and training for all K-12 teachers of science to become more confident and effective. Houston is rich in professional organizations dedicated to promoting STEM. HUNSTEM will build professional networks in each area of STEM in the Houston area. HUNSTEM will connect these organizations to teachers and families more effectively than they can do through their own efforts. By building these networks of professional organizations into the HUNSTEM web site, they will be able to target their audience, and teachers, parents and students searching for resources will find them. HUNSTEM will also help informal science centers reach their audiences more effectively by encouraging curricula and curricula development that utilizes the resources of the various museums, nature centers, zoos and parks in the Houston area.