ACET
Association for Computer Educators in Texas

NEWSLETTER

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President's Message

Hajar Sanders, PhD
Business Department Professor
DeVry University Houston
ACET President

Thanks to all ACET members for their active participation in, and contributions to the 2009 conference. In addition, I thank the ACET Board of Directors for their demonstrated professionalism and team work that contributed much to the success of the 2009 conference. We are off to a terrific start for the 2010 conference and I am looking forward to seeing all ACET members in 2010. The Board of Directors, as usual, have set goals to continue improvements and make every effort toward excellence.

The suggested or considered improvements and enhancements have addressed at least the following issues:

- Web site improvements to facilitate user friendliness
- Continue with interesting additions and other improvements to the ACET Journal
- Expand initiatives such that we can offer opportunities for both undergraduate and graduate students to display projects in a formal environment.
- Revise ACET Newsletter in a manner that will facilitate electronic distribution to all members.
- Complete a draft of Standard Operating Procedures for ACET's Directors
- Goals from two years ago that will be or continued in the 2010 sessions are:
  - Develop our new Continuing Professional Education credits abilities, making them more responsive to our membership.
  - Refine ACET's databases (members, vendors and fellow educators in Texas) which allow us to target our constituent audiences more effectively

Inside This Issue

46th ACET Annual Conference: *Technology: A Bridge to the Future.*

ACET's focus on offering education and training for high school, college and university faculty, staff, and administrators encourages us to present an annual conference. These will be offered at an extremely low cost with professional development opportunities, training workshops, guest speakers, papers featuring current research, and other sessions that inform participants about cutting-edge technologies and current developments in the field. Our special focus for the 2010 conference will highlight the impact that portable, wireless technologies are having on educational settings and best practices for maintaining security in these environments!

Join us at our 46th Annual Conference where we will continue the tradition of providing cost-effective updates for our members--not to mention the great food, camaraderie, and door prizes or giveaways that participants always find at the ACET conferences.

ACET 46th ANNUAL CONFERENCE

IT: Mapping the Future
October 7 - 9
South Shore Harbor Conference Center
League City, TX

For registration & hotel information, visit
www.acetweb.org

The ACET domain name has been changed. The new domain name is:
www.acetweb.org

2009 Conference Presenters

Each year conference participants tell us the great line-up of presenters with their experience and knowledge is what makes ACET conference program so valuable. The 45th ACET Annual conference once more held an outstanding array of presenters. This conference provided an excellent venue for networking and professional development, and we hope that educators from all over Texas will be able to attend future conferences. The list of the presenters and the topics are as follow:

Keynote Speaker:
Dr. Bradley Jensen, Microsoft Corp: Cloud Computing

Dr. Richard Reese: Introduction to JavaServer Faces and Their Use as a Distributed Application Project

Dr. Lisa Ball
Getting Computer Science Majors: What are we missing?

David A. Abarca Ed.D.
Are Texas Community College Programs Aligned with Employers Preferences for Information Technology Credentials

Cynthia C. Fry & Adam P. Ecklund
An Innovation in Engineering & Computer Science Recruitment: the Renaissance Scholar Summer Program

Cynthia C. Fry & Donald L. Gaitros: Innovation in Computer Science Education: The Computer Science Fellows Program at Baylor University.

Dwayne Towell, PhD& Brent Reeves, PhD: From Walls to Steps: Using online automatic homework checking tools to improve learning in introductory programming courses

Gustavo Dietrich: The use of team work in the first programming course to improve retention

Pablo Martinez & Dr. John Abraham:
CTS - More than a head count

Kenneth Leroy Busbee:
Open Educational Resources – Getting Started Conations Project hosted at Rice University for producing Open Educational

Dr. Akhtar Lodgher:
Getting an education in Computer Information Systems

Dr. Gerard Rambally & Dr. Rodney Rambally
AAA: Algorithm Animation in Alice

Dr. Nancy Leveille & Ongard Sirisaengtaksin
Learning Logic with LEGO MINDSTORMS

Hajar Sanders, PhD
Microsoft New Program: Imagine Cup USA; Technology Competition for the Students and Faculty in two areas: Software Design and Game Design,

Dr. Li-Jen Shannon & Ken Hartness:
Mentorship: A Bridge to Retention

Dr. Sam Hijazi
1st Presentation: Using Camtasia Studio as a Desktop Recording Software to Enhance Teaching
2nd Presentation: An Additional Examination of Knowledge Creation Model

Charles L. McDonald, Jr., Ph.D. & Theresa McDonald, Ph.D.
1st Presentation: A Technology-based Solution to Reduce Time Spent
2nd Presentation: Identifying and Commenting Writing Errors in Research Papers

Sri Ganesh Anaparthi and Shyam Prasad Pulapa
Automatic text summarization using hac

Dr. Eric Freudenthal
1st Presentation: A Computational Introduction to Programming, Mathematical Modeling, and Elementary Mechanics
2nd Presentation: CCS0: A Computational Introduction to Programming, Mathematical Modeling, and Elementary Mechanics
3rd Presentation: Characterizing Introductory Courses in Computation

Dr. John Abraham & Pablo Martinez & Irma Resendez
An introduction to digital forensics

Dr. Eric Freudenthal & Dr. Alan Siegel: Eliciting Engagement and Creativity in Students Attending a First Course in Algorithms

Dr. Mary Myers:
Windows 7 – Microsoft's Newest Operating System

Dr. Tim McGuire & Dr. Michael Scherger
This workshop will examine the tools and techniques of multi-core processing, using open source software (OpenMP) to an easily-implemented "incremental approach" to parallelism

Karen L. Williams, Ph. D. & Linda H. Shepherd, MCSM
Presenting a Web-Based MS Office Course to the Masses Using mylTLab - Lessons Learned

David Danforth & Richard "Rick" Lumadue, PhD
A Service-Learning Program at Eastfield College: Student's Coaching Faculty in Technology, Faculty Mentoring Students in Life Experiences

Ron Carswell
Update: How will you teach your online students when gas cost $5/gallon

Ann Thorn, EdD
Green is the New Black and White – What's Happening Out There?

Dr. Ruth Robbins
Introducing Research to the Introduction to Computers Classroom

Shohreh Hashemi
Using Pivot Tables to Introduce Data Analysis & Business Intelligence Processes in Computer Introductory Courses

Hajar Sanders, PhD
Effectiveness of Data Management

STUDENT PRESENTATIONS

Students were judged by the ACET attendees based on the following criteria: Content Quality, Quality of Data, Opportunity for Further Research or Development, Innovative Presentation Technique and Visual Impact, and Relevance to Computing.

1st Place
INSPIRED Instructional Materials for Engaging High School Students
Presenter: Kelli Hall and Valerie Juarez
Faculty Mentor: Dr. Peggy Doerschuk

The INSPIRED (Increasing Student Participation in Research Development) Program is a part of the National Science Foundation Broadening Participation in Computing Project. INSPIRED hosts a single high school robotics academy each year to attract students, particularly those from underrepresented populations as females and minorities, to computing. At first, robots are used to spark interest. To add variety and interest to the academy, there is a webpage building session called WebLab to introduce the students to the creative side of computing. The WebLab focuses on teaching the students the fundamentals of web design and HTML using notepad and Microsoft Expression© Web 2.

2nd Place
Transportation-caused Air Pollution in Mexico City: A Drastic Public Policy Plan

Presenter: Haydee Balderas and Kari Bustos
Faculty Mentors: Dr. Merrilee Cunningham a& Dr. Ruth Robbins

Our matrix of objectives for this project is directed toward presenting substantial public policy initiatives to effect positive changes in the air environment quality in Mexico City. A primary cause of Mexico City's air pollution problem is transportation. Because of the congested traffic, the time any vehicle will spend on the road per outing increases. This factor plus overcrowded roads and the continued use of dirty gasoline has continued to negatively affect air quality. Using best practices models, we will attempt to determine major contributors to deteriorating air quality and propose tentative solutions to air pollution in Mexico City as well as estimate the viability of continuing present public policy initiatives.

3rd place
DrugChem: Web-based Data Integration Software
Presenter: Marwa Hassan
Faculty Mentor: Dr. Longzhuang Li

DrugChem is a web-based data integration application that allows users to query unique chemical structures using drug names or active ingredients; e.g. Advil or Ibuprofen, respectively. Query results include the description, chemical structure, molecular weight, standardized identifiers, and chemical formula related to the queried element. This Java-based project employs the Global-as-View (GAV) integration approach and uses a custom-developed *HTML Parser* library. This alleviates the need for a local database.

DrugChem integrates data from three data sources 1) Wikipedia (http://wikipedia.org/). This data source provides the general description of the queried element. 2) PubChem (http://pubchem.ncbi.nlm.nih.gov/). This is the data source for the molecular weight and IUPAC identifier. 3) NIST WebBook (http://webbook.nist.gov/chemistry/name-ser.html). DrugChem extracts the chemical structure, chemical formula, and further chemical details from this data source.

CS and math belong in the same lifeboat
(so that we can revitalize STEM together)

Dr. Eric Freudenthal
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Consider the misguided things teenagers do when they first consider the possibility of dating. Their insecurities can lead them to focus on smooth 'pickup' lines and acting 'cool' rather than earnestly seeking mutual interests. In response to enrollment drops in computer science (CS) programs, many advocates are following a similar path: They recruit students with engaging courses that hide CS's relationship to mathematical concepts. Some are creating attractive introductory 'computer' courses that focus on the social component of interface design and ignore programming altogether.

Although these courses are engaging and teach important skills, they do not strengthen skills in mathematics --- which are crucial for success in computer science programs, and in other science-math-engineering-technology (STEM) careers. Demanding math curricula is the principal cause of attrition from CS and other STEM majors, and many students chose non-STEM majors to avoid study of advanced math.

Our research indicates that math and programming can be taught together in an engaging manner that can both attract and retain students in CS and STEM. Furthermore, this holistic approach to teaching "computation" can make programming a foundational pillar of a wide range of students' educational scaffolding – in a manner that could broadly expand the group of people who achieve a "computational literacy" that includes an understanding of programming.

Calculus and classical physics are layered upon each other and understanding is communicated through the composition of complex concepts. Due to this dense layering of abstractions, the cognitive distance between concrete experience and coursework is large. Our course, titled "Media Propelled Computational Thinking" (abbreviated MPCT and pronounced "iMPaCT"), seizes the opportunity to use introductory programming as a vehicle to present mathematics and physical laws from an intuitive and engaging perspective that appears to strengthen interest in and understanding of technical content.

Students in MPCT write and modify dozens of tiny programs (many are just 4-10 lines of code) that draw lines and then animations that motivate and expose the principles underlying geometry, trigonometry, ballistics, biological growth, and resonance. Thus, we use programming to 'concretize' mathematical abstraction and we expose computation's "best side" as they develop the foundational understandings and intuitions required to succeed in STEM.

Our results are encouraging – most STEM and non-STEM students are highly engaged – and report that their experience of "programmed" computation is much more accessible and intuitive than traditional math and science, courses and three-quarters are open to continued studies of computation. While causal relationships are hard to draw, enrollment in "CS-1" doubled in the year following the implementation of MPCT within a required freshman course.

We are beginning dissemination, both at the college and high school levels. Please contact Dr. Freudenthal if you would like to participate in the dissemination, evaluation, or further development of MPCT. Travel subsidies are available to support these collaborations.

In memorial of a friend, Ed Clack (November 8, 1935 – January 21, 2010)
Ed was a very active member of the executive committee of ACET for over 25 years. He provided the latest up-to-date data as to the finances of ACET. Although Ed was taken much too soon, the thoughts of him are still with us. Not only will his family miss him but members of ACET will miss his smiling face and his presence.