The mission of the UC Davis K-14 Outreach Center for Computing and STEM Education (C-STEM) is to improve computing, science, technology, engineering, and mathematics (C-STEM) education in both formal and informal programs in K-14. Simply put, we add 'C' in front of STEM and integrate 'C' into STEM. The goal of the C-STEM Center is to broaden participation of students traditionally underrepresented in computing and to develop students' computer-aided problem-solving skills to tackle real-world STEM problems. The C-STEM Center studies how to use computing technology to help students learn and increase student interest in STEM subjects. The C-STEM Center also studies how to streamline the curriculum on computing education in the context of STEM subjects in elementary, middle, and high schools, as well as first two years in colleges. Various activities are designed to accomplish the mission and achieve the goal of the C-STEM Center. One of them is to organize the UC Davis C-STEM Day to build public awareness and advocate for C-STEM education.

This year, the program on the C-STEM Day, April 30, 2011, includes the UC Davis Secondary School Programming Competition, a Symposium on Computing and STEM Education in the 21st Century, C-STEM Awards, and C-STEM related demos and lab tours. Major events and agendas for the day are described in this document. Detailed information about the competition and C-STEM Awards selection is available at the Web site for the C-STEM Center http://c-stem.ucdavis.edu.

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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<tbody>
<tr>
<td>8:30am – 9:00am</td>
<td>Registration for programming competition</td>
<td>Bainer Hall Lobby</td>
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<tr>
<td>8:30am – 9:00am</td>
<td>Registration for symposium</td>
<td>1065 Kemper Hall</td>
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<tr>
<td>9:00am – 9:15am</td>
<td>Orientation for UC Davis Secondary School Programming Competition</td>
<td>2121A Bainer Hall</td>
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<tr>
<td>9:15am – 12:00pm</td>
<td>UC Davis Secondary School Programming Competition</td>
<td>2121A Bainer Hall</td>
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<tr>
<td>9:00am – 12:00pm</td>
<td>Symposium on Computing and STEM Education in the 21st Century</td>
<td>1065 Kemper Hall</td>
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<tr>
<td>12:00pm – 1:00pm</td>
<td>Lunch</td>
<td>Tercero Dining Hall</td>
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<td>1:00pm – 2:00pm</td>
<td>Demos of UCD iMobot¹, Sumo robot fighting², unmanned aerial vehicle (UAV) project for robot contingency competition³</td>
<td>1067 Bainer Hall¹, Kemper Hall Lobby², 1003 Kemper³</td>
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<td>2:00pm – 3:00pm</td>
<td>Awards Ceremony (Present Winners of UC Davis Secondary School Programming Competition, present C-STEM Awards, introduce Robot Challenge Competition in 2012)</td>
<td>1065 Kemper Hall</td>
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Symposium on Computing and STEM Education in the 21st Century
Saturday April 30, 2011
1065 Kemper Hall
http://c-stem.ucdavis.edu

Agenda

9:00am-9:10am - Introduction
Harry H. Cheng, Professor and Director of the C-STEM Center, UC Davis
Jean VanderGheynt, Associate Dean of the College of Engineering, UC Davis

9:10am-9:20am - Vision on UC Davis K-12 Outreach to Improve C-STEM Education
Enrique J. Lavernia, Dean of the College of Engineering, UC Davis

9:20am-9:40am - K-12 Computing and STEM Education in the 21st Century
Harry H. Cheng, Professor and Director of the C-STEM Center, UC Davis

9:40am-9:50am - Computing Applications at UC Davis
Kevin Gucwa, PhD Candidate and Director Assistant of the C-STEM Center, UC Davis

9:50am-10:05am - Challenges in K-12 Computing and STEM Education, and Collaboration with UC Davis
Ronda Adams, Associate Superintendent, Yolo County Office of Education

10:05am-10:35am - Collaboration with UCD to Transform Computing and STEM Education with Integration of Computing into Math and Various Courses and Extracurricular Activities in Washington Unified School District
Sue Brothers, Assistant Superintendent, Washington Unified School District, West Sacramento
Dubarrie Fagout, Technology Teacher, River City High School, West Sacramento
Francesca DeFazio, Math Teacher, Westmore Oaks Elementary School, West Sacramento

10:35am-10:50am - Inspiring at-Risk Students to Learn Computing and Math
Krista Purdom, ROP Teacher, Einstein Education Center High School, Woodland

10:50am-11:00am – Break

11:00am-11:10am - Computing Experience for K-12 Students in COSMOS and AFOR-Sponsored Summer Internship
Richard T. Scalettar, Professor, Department of Physics, UC Davis

11:10am-11:15am - C-STEM Center Summer Courses in Computing and Math Education through UC Davis Extension with Continuing Education Credits
Harry H. Cheng, Professor and Director of the C-STEM Center, UC Davis
Kevin Gucwa, PhD Candidate and Director Assistant of the C-STEM Center, UC Davis

11:15am-11:20am - UC Davis Robot Challenge Competition on the UC Davis C-STEM Day in 2012
Harry H. Cheng, Professor and Director of the C-STEM Center, UC Davis

11:20am-11:30am - Collaboration Opportunities with UCD on Computing and STEM Education
Tim Taylor, Assistant Superintendent, Sacramento County Office of Education

11:30am-12:00pm – Panel Discussion: Challenges and Opportunities in Computing and Math Education
Panel Chair: Sue Brothers, Assistant Superintendent, Washington Unified School District, West Sacramento
Panel Members:
Dubarrie Fagout, Technology Teacher, River City High School, West Sacramento
Francesca DeFazio, Math Teacher, Westmore Oaks Elementary School, West Sacramento
Krista Purdom, ROP Teacher, Einstein Education Center High School, Woodland
Brian Donnelly, Dept. Chair of Industrial Technology and Math Teacher, Harper Junior High School, Davis
Heather Wade, Math Teacher, O. W. Holmes Junior High School, Davis
George Sellu, Math Teacher, Woodland High School, Woodland
Terry Ahrens, ROP Teacher, Marian Anderson Community School, Sacramento
Ning Wan, Parent, Davis Senior High School, Davis

Registration: Attendance at the symposium is free of charge. However, the space is limited. Registration is available online at the website: http://c-stem.ucdavis.edu/CSTEMDay/symposium/. To reserve your space, register before Tuesday April 26, 2011.

Contact: Kevin Gucwa
Phone: (530) 752-1028
Email: kgucwa@ucdavis.edu

The UC Davis K-14 Outreach Center for Computing and STEM Education (C-STEM)