
15th Annual Standards & Assessment Conference



Colorado Science Summit

June 7, 2006
Keystone, Colorado

15th Annual Standards & Assessment Conference

Colorado Science Summit

The Colorado Science Summit provides an opportunity to learn from and network with educators and administrators making a difference in science education.



Hosted by

Colorado Department of Education
Colorado Education Association
Colorado Association of School Executive

15th Annual Standards & Assessment Conference

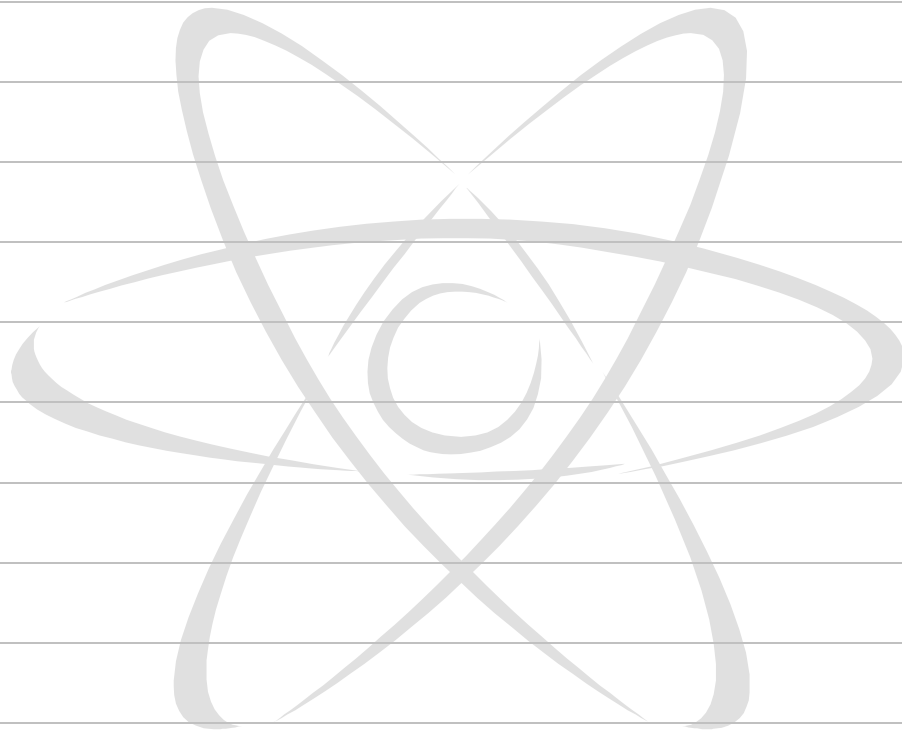
Colorado Science Summit

June 7, 2006

PROGRAM AGENDA

7:30-8:30	Breakfast
8:30-9:15	General Session
9:15-9:30	Coffee Break
9:30-10:30	Breakout Session #1
10:30-10:45	Break
10:45-11:45	Keynote Speaker: Dr. Carl Wieman
12:00-1:00	Lunch - Sponsored by Lockheed Martin Remarks: Evan McCollum, Director, Communications
1:15-2:15	Breakout Session #2
2:15-2:30	Coffee Break
2:30-3:30	Breakout Session #3
3:30-5:00	Reception

Notes



Dr. Carl Wieman

University of Colorado, Boulder
Distinguished Professor of Physics

BIOGRAPHICAL SKETCH



Carl Wieman grew up in the forests of Oregon and received his B.S. from the Massachusetts Institute of Technology in 1973 and his Ph.D. from Stanford University in 1977. He has been at the University of Colorado since 1984 where he holds the titles of Distinguished Professor of Physics, Presidential Teaching Scholar, and Fellow of JILA.

He has carried out research in a variety of areas of atomic physics and laser spectroscopy including using laser light to cool atoms. His research has been recognized with numerous awards including the Nobel Prize in Physics in 2001 for the creation of Bose-Einstein condensation in vapor. He has worked on a variety of research and innovations in teaching physics to a broad range of students, including the Physics Education

Technology Project, that creates educational online interactive simulations.

Dr. Wieman is a 2001 recipient of the National Science Foundation's Distinguished Teaching Scholar Award and the Carnegie Foundation's 2004 US University Professor of the Year Award. He is a member of the National Academy of Science and chairs the Academy Board on Science Education.

For more information on the Physics Education Technology Project please visit:

<http://www.colorado.edu/physics/phet>

Breakout Sessions - Program

June 7, 2006

9:30 a.m. - 10:30 a.m.

Session 1-A: Room - Windwood

Mentors, and Virtual Communities; 21st Century Solutions to Teacher Isolation

Robert Payo; Education and Outreach Specialist, National Science Digital Library
Lori Reinsvold; Director, Technology Literacy Center, University of Northern Colorado

Emerging technologies support a range of innovative practices that can connect teachers to other teachers, subject matter experts, and rich teaching and learning resources regardless of geography or school demographics. This session features examples from two Colorado-based projects that are applying current research to enhance teachers' skills and knowledge via technology.

Session 1-B: Room - Foxfire

Big Gains in No Time At All!

Debbie Bland, Holly Junior Senior High School
Ruth Ann Cullen, Principal, Holly Junior Senior High School
Holly RE-3

Learn how in just seven months of applying the strategies of the Achievement MAP and teaching a curriculum correlated with not only the Assessment Frameworks but also the Item Maps, the Holly School District gained 43 points on the 8th grade Science CSAP, going from a 32% proficient and advanced in 2004 to a 75% proficient and advanced in 2005. Concepts to be discussed include: correlating curriculum, items maps, effective rubrics, and supporting science across the curriculum.

Session 1-C: Room - Sunburst

Linking Professional Development in Science to Higher Achievement in CSAP, Reading, Writing and Mathematics.

Paul J. Kuerbis, Linda B. Mooney and Marie Revak, Science Teacher Enhancement Project unifying the Pikes Peak Region (STEP-uP)

STEP-uP is a highly successful science teacher professional development program. STEP-uP is engaged in multi-dimensional teacher development using "explicit inquiry". Various elements of the program, easily implemented by districts, impact significantly on student CSAP performance in reading, writing and mathematics. Hear the story of STEP-uP and the research results within the five Pikes Peak districts (Districts 2, 11, 12, 20 and 38)

9:30 a.m. - 10:30 a.m.

Session 1-D: Room - Sundrift

Engineering in the Classroom - A Project Based Approach to Stimulating interest in STEM Careers

Dr. Julie Albertson, Colorado Affiliate Director, Project Lead the Way

Project Lead The Way (PLTW) introduces students to the excitement, scope, rigor, and discipline of engineering and technology prior to entering college. The discussion includes a curriculum overview and educational assistance opportunities for middle and high school educators. The nationwide program leverages university partnerships to enhance student in STEM careers, and has demonstrated 5-10% increases in student performance and college retention.

**Session 1-E: Room - Ten Mile
Why Are You Teaching That?**

Jan Tuomi, Lead Consultant, McREL

Check your process for planning science lessons against this framework for identifying important content. You'll learn a simple process to identify the conceptual understanding you want the students to achieve, and unpack the knowledge and skills necessary to demonstrate that understanding. Having done this, instruction will be explicitly focused on all students' mastering the content.

**Session 1-F: Room - Golds
Science in the Hands of Kids. A Way to Get There**

John McConnell, Western Colorado Math and Science Center

Learn how to deliver science instruction with a hands-on method through experiences from the Western Colorado Math and Science Center. Over 46,000 kids have visited and learned from this tremendous resource since it opened in 2000.

**Session 2-A: Room - Windwood
A Journey of Growth**

Jack Ganse, Eldorado K-8
Boulder Valley RE-2

Take a journey along a path of reflection and continuous improvement to see how our students have made gains in science. Vertical articulation of school science goals, collaboration about achievement equity, focus on essential science learning and common expectations, emphasis on the process of science and use of technology such as clickers to monitor student learning, are contributing to the success of middle level students at Eldorado K-8.

1:15 p.m. - 2:15 p.m.

Session 2-B: Room - Foxfire

Big Gains in No Time At All!

Debbie Bland, Holly Junior Senior High School
Ruth Ann Cullen, Principal, Holly Junior Senior High School
Holly RE-3

Learn how in just seven months of applying the strategies of the Achievement MAP and teaching a curriculum correlated with not only the Assessment Frameworks but also the Item Maps, the Holly School District gained 43 points on the 8th grade Science CSAP, going from a 32% proficient and advanced in 2004 to a 75% proficient and advanced in 2005. Concepts to be discussed include: correlating curriculum, items maps, effective rubrics, and supporting science across the curriculum.

Session 2-C: Room - Sunburst

A Rural View: Small School Science Success

Jill Smith and Pam Frey, McClave Junior Senior High School
McClave RE-2

What are the benefits of whole school involvement toward science instruction? How do we enable continuing education of instructors and instructional abilities? This session will feature the ways to be creative in the science classroom without sacrificing content.

Session 2-D: Room - Sundrift

Informal Science Education Matters!

Polly Andrews, Denver Museum of Nature and Science
Sharon Unkart, Denver Museum of Nature and Science
Shawna Crocker, Colorado State Forest Service
Marley Steele Inama, Denver Zoo
Ray Tschillard, Poudre Nature Center/Greeley School District

Research indicates that informal science education provides a necessary spark for increasing student's interest in and understanding of science. Join presenters from four informal science centers which support inquiry-based science programs throughout the state of Colorado. Model science programs and resources will be highlighted throughout the program.

Session 2-E: Room - Divide

Creating a Math/Science Focus School

Janet Stellema and Jim Armitage, Ryan Elementary
Boulder Valley RE-2

A comprehensive look at moving from a neighborhood school to a district math and science focus school. Information and strategies will be shared regarding model curricula, design team

1:15 p.m. - 2:15 p.m.

concepts and change leading to opening as a math and science focus school. Learn from results over the last 18 months, and progress towards our goal. This session will review several data points and highlight progress in attitudes and student learning.

Session 2-F: Room - Arapahoe

Linking Professional Development in Science to Higher Achievement in CSAP, Reading, Writing and Mathematics.

Paul J. Kuerbis, Linda B. Mooney and Marie Revak, Science Teacher Enhancement Project unifying the Pikes Peak Region (STEP-uP)

STEP-uP is a highly successful science teacher professional development program. STEP-uP is engaged in multi-dimensional teacher development using “explicit inquiry”. Various elements of the program, easily implemented by districts, impact significantly on student CSAP performance in reading, writing and mathematics. Hear the story of STEP-uP and the research results within the five Pikes Peak districts (Districts 2, 11, 12, 20 and 38)

Session 2-G: Room - Ten Mile
Why Are You Teaching That?

Jan Tuomi, McREL

Check your process for planning science lessons against this framework for identifying important content. You’ll learn a simple process to identify the conceptual understanding you want the students to achieve, and unpack the knowledge and skills necessary to demonstrate that understanding. Having done this, instruction will be explicitly focused on all students’ mastering the content.

Session 2-H: Room - Golds

Mentors, and Virtual Communities; 21st Century Solutions to Teacher Isolation

Robert Payo; Education and Outreach Specialist, National Science Digital Library
Lori Reinsvold; Director, Technology Literacy Center, University of Northern Colorado

Emerging technologies support a range of innovative practices that can connect teachers to other teachers, subject matter experts, and rich teaching and learning resources regardless of geography or school demographics. This session features examples from two Colorado-based projects that are applying current research to enhance teachers’ skills and knowledge via technology.

2:30 p.m. - 3:30 p.m.

Session 3-A: Room - Windwood

A Journey of Growth

Jack Ganse, Eldorado K-8
Boulder Valley RE-2

Take a journey along a path of reflection and continuous improvement to see how our students have made gains in science. Vertical articulation of school science goals, collaboration about achievement equity, focus on essential science learning and common expectations, emphasis on the process of science and use of technology such as clickers to monitor student learning, are contributing to the success of middle level students at Eldorado K-8.

Session 3-B: Room - Foxfire

NAEP 2005: Science Results for Colorado and the Nation

Pam Sandoval, NAEP - Colorado Department of Education

Participants will learn how Colorado 4th and 8th grade students performed on the 2005 "Nation's Report Card" for science. The presentation will include a look at the results by subscales for Physical Science, Earth Science and Life Science. In addition, we will look at the 2005 NAEP Science Framework and the proposed 2009 NAEP Science Framework.

Session 3-C: Room - Sunburst

A Rural View: Small School Science Success

Jill Smith and Pam Frey, McClave Junior Senior High School
McClave RE-2

What are the benefits of whole school involvement toward science instruction? How do we enable continuing education of instructors and instructional abilities? This session will feature the ways to be creative in the science classroom without sacrificing content.

Session 3-D: Room - Sundrift

Using Lesson Study to Improve Science Instruction for English Language Learners

Linda Morris and Donnie Siebel, Jefferson County Public Schools
Bev Clemens, Douglas County Public Schools
Melissa Botteicher, Aurora Public Schools
Doris Kimbrough, University of Colorado, Denver

This session will discuss lesson study protocol and its effect on English Language Learners (ELLs). Participants will experience lesson study models through demonstrations and classroom video. Specific examples toward sheltered instruction for ELLs will be included.

2:30 p.m. - 3:30 p.m.

Session 3-E: Room - Divide
Creating a Math/Science Focus School

Janet Stellema and Jim Armitage, Ryan Elementary
Boulder Valley RE-2

A comprehensive look at moving from a neighborhood school to a district math and science focus school. Information and strategies will be shared regarding model curricula, design team concepts and change leading to opening as a math and science focus school. Learn from results over the last 18 months, and progress towards our goal. This session will review several data points and highlight progress in attitudes and student learning.

Session 3-F: Room - Arapahoe
Linking Professional Development in Science to Higher Achievement in CSAP, Reading, Writing and Mathematics.

Paul J. Kuerbis, Linda B. Mooney and Marie Revak, Science Teacher Enhancement Project unifying the Pikes Peak Region (STEP-uP)

STEP-uP is a highly successful science teacher professional development program. STEP-uP is engaged in multi-dimensional teacher development using “explicit inquiry”. Various elements of the program, easily implemented by districts, impact significantly on student CSAP performance in reading, writing and mathematics. Hear the story of STEP-uP and the research results within the five Pikes Peak districts (Districts 2, 11, 12, 20 and 38)

Session 3-G: Room - Golds
Science in the Hands of Kids. A Way to Get There

John McConnell, Western Colorado Math and Science Center

Learn how to deliver science instruction with a hands-on method through experiences from the Western Colorado Math and Science Center. Over 46,000 kids have visited and learned from this tremendous resource since it opened in 2000.

We'd like to thank our sponsors



Information

Cell Phones

Please turn your cell phone off and refrain from using it during conference sessions.

Graduate College Credit

One half of a graduate credit is offered for attending the conference. University of Colorado at Denver will have a table setup in the registration area where you may complete the credit form and make payments. The cost is \$30.00

Contact Hours Certificate

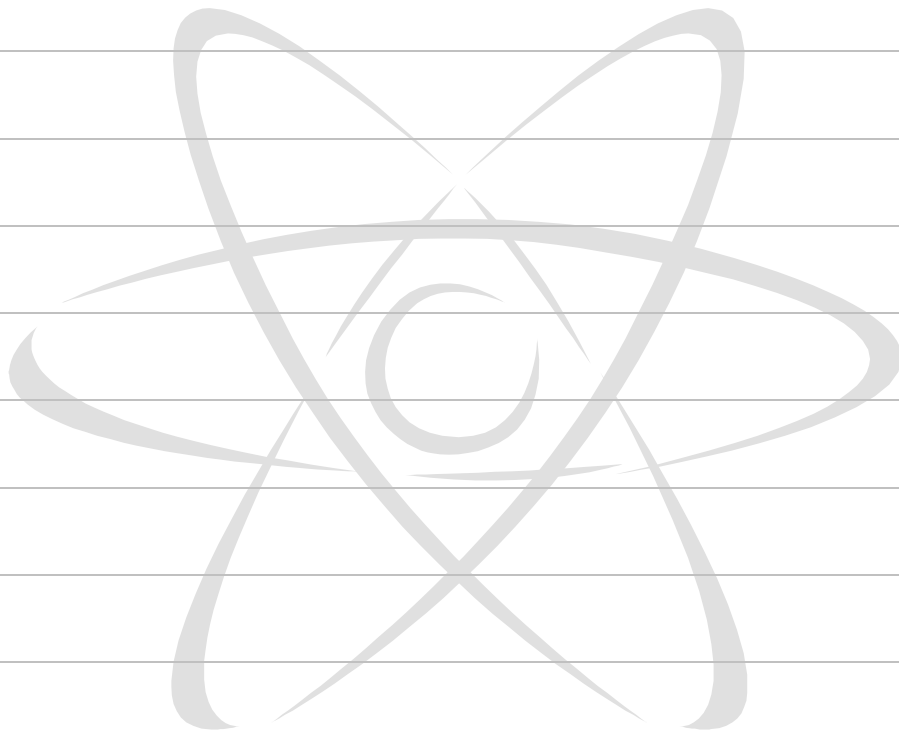
At the conclusion of the conference you may pickup a certificate (for no fee) noting the contact hours of attendance if you do not wish to receive college credit.

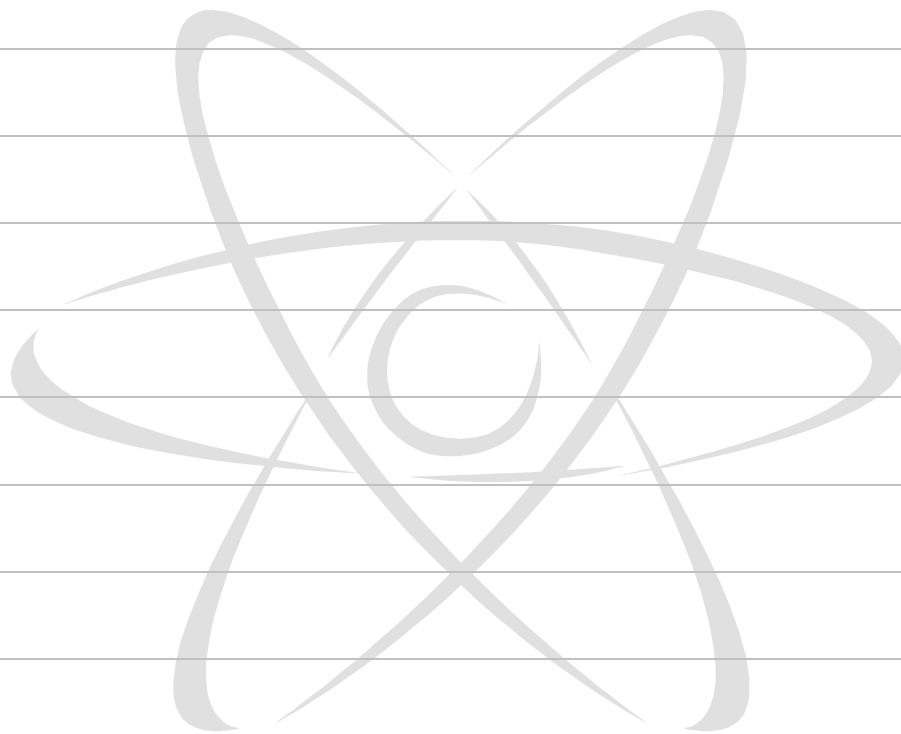
Please note, you may only select one option – contact hours or college credit.

Presented by:



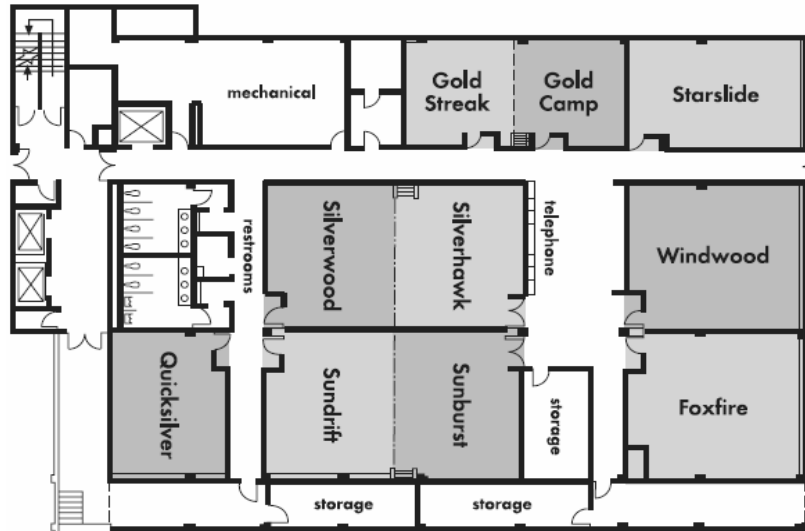
Notes





Keystone Lodge Keystone, Colorado

SECOND FLOOR MEETING ROOMS



THIRD FLOOR MEETING ROOMS

