



**Officers and
Board of Directors**

President

Jeff Weidenaar
Pearson Higher Education

Vice President

Mary Burke
Academy of Science of St. Louis

Secretary/Treasurer

Ann Benbow
American Geological Institute

Bart Aslin

Society of Manufacturing Engineers
Education Foundation

Linda Atkinson

National Science Education
Leadership Association

Marjorie Bardeen

Fermi National Accelerator
Laboratory

Deborah Bliss

Association of State Supervisors
of Mathematics

James Brown

American Chemical Society

Phyllis Buchanan

E.I. DuPont de Nemours and
Company

Patti Curtis

National Center for Technological
Literacy

Lynn Elfner

Ohio Academy of Science

Joseph Elliott

Delta Education, LLC

Wesley Fondal, Jr.

STARBASE Robins

Linda Gojak

National Council of Supervisors of
Mathematics

Jack Hehn

American Institute of Physics

Lynne Hehr

Center for Mathematics and Science
Education, University of Arkansas

Barbara Kaufmann

3M Foundation

Kathryn Kailikole

Louis Stokes Institute for
Opportunity in STEM Education

Mary Ellen Leahy

Pearson Prentice Hall

Jodi Peterson

National Science Teachers
Association

Stephen Pruitt

Council of State Science
Supervisors

Larisa Schelkin

DOMÉ Foundation, Inc.

Claudia Toback

National Middle Level Science
Teachers Association

J. Patrick White

Texas Instruments, Inc.

**Executive Director
Vance Ablott**

Dr. Thomas E. Keller
Senior Program Officer
National Academy of Sciences
Board on Science Education
Keck Building 1150
500 Fifth Street, NW
Washington, DC 20001

July 30, 2010

Dear Committee on Conceptual Framework for New Science Education Standards:

The Triangle Coalition for Science and Technology Education applauds your efforts in creating a framework to guide the new science education standards. The draft of the Conceptual Framework for New Science Education Standards is an important and necessary step in raising the bar in science, technology, engineering, and mathematics (STEM) education in our nation.

The Triangle Coalition, a 501C-3 organization, is unique as we are comprised of a broad constituency of the STEM education community, representing over 100 member organizations from business, education, and STEM societies.

The framework has sparked a great deal of interest and discussion among our Coalition members. Overall, our members are extremely supportive of your efforts and a vast majority is actively involved in providing feedback to you. In addition to the responses they will provide to you directly, our members have provided us with comments as well. As a unifying voice among the STEM community, Triangle Coalition expresses our response on behalf of our membership as a whole.

The majority of our members feel that the framework does identify the most important ideas and practices for K-12 science education and describes them accurately. Members also agree that the draft is well-organized, accessible, and understandable.

The integration of STEM subjects is an important discussion that requires in depth examination and evaluation as to the most effective and efficient process for teaching the material. The inclusion of technology and engineering within the science framework is a natural progression towards an integrated STEM approach. However, it should be noted that incorporating these subjects into science standards has the potential to downplay their importance as individual subjects. As you proceed we would ask that you consider the proper perspective of technology and engineering so that while they may be included, rightly so, in science, they are also subjects which merit evaluation on their own. With that in mind our members also point out that technology and engineering must be more clearly defined within the framework and not be used interchangeably as they seem to be at present.

The inclusion of technology and engineering present potential difficulties for teachers since most science teachers are not trained professionally to teach technology, and engineering, in addition to their science certifications. Science, technology, and engineering teachers each possess a different set of core competencies. While we understand that the framework is not a set of standards dictating how subjects will be



Triangle
Coalition
for
Science
and
Technology
Education

**Officers and
Board of Directors**

President

Jeff Weidenaar

Pearson Higher Education

Vice President

Mary Burke

Academy of Science of St. Louis

Secretary/Treasurer

Ann Benbow

American Geological Institute

Bart Aslin

Society of Manufacturing Engineers
Education Foundation

Linda Atkinson

National Science Education
Leadership Association

Marjorie Bardeen

Fermi National Accelerator
Laboratory

Deborah Bliss

Association of State Supervisors
of Mathematics

James Brown

American Chemical Society

Phyllis Buchanan

E.I. DuPont de Nemours and
Company

Patti Curtis

National Center for Technological
Literacy

Lynn Elfner

Ohio Academy of Science

Joseph Elliott

Delta Education, LLC

Wesley Fondal, Jr.

STARBASE Robins

Linda Gojak

National Council of Supervisors of
Mathematics

Jack Hehn

American Institute of Physics

Lynne Hehr

Center for Mathematics and Science
Education, University of Arkansas

Barbara Kaufmann

3M Foundation

Kathryn Kailikole

Louis Stokes Institute for
Opportunity in STEM Education

Mary Ellen Leahy

Pearson Prentice Hall

Jodi Peterson

National Science Teachers
Association

Stephen Pruitt

Council of State Science
Supervisors

Larisa Schelkin

DOMÉ Foundation, Inc.

Claudia Toback

National Middle Level Science
Teachers Association

J. Patrick White

Texas Instruments, Inc.

Executive Director

Vance Ablott

taught, it is a preliminary step in outlining expectations for science standards and therefore these issues must be addressed.

The progressions across grade levels are generally viewed as appropriate. However, we caution that the presentation of statements in the learning progressions gives little sense for how ideas might actually build upon each other. Furthermore some physical science and earth and space science statements have expectations of a more complex understanding of the material that is more appropriately encountered at the college level.

While we commend the committee for keeping on track with the timeline for delivering the final framework, the short window for providing feedback has barred many organizations from being able to participate. Particularly with the framework draft being released during the middle of summer when large portions of academia may be on vacation sends a message that feedback from teachers, as well as from other organizations, is not a priority. We have confidence that the committee will be reviewing all feedback, giving it necessary and careful review and consideration.

On behalf of the members of the Triangle Coalition, we would like to express our support and sincere gratitude for your leadership in STEM education.

Sincerely,

A handwritten signature in black ink that reads "Vance R. Ablott". The signature is written in a cursive style with a prominent initial "V".

Vance R. Ablott
Executive Director