



ACS  
Chemistry for Life®

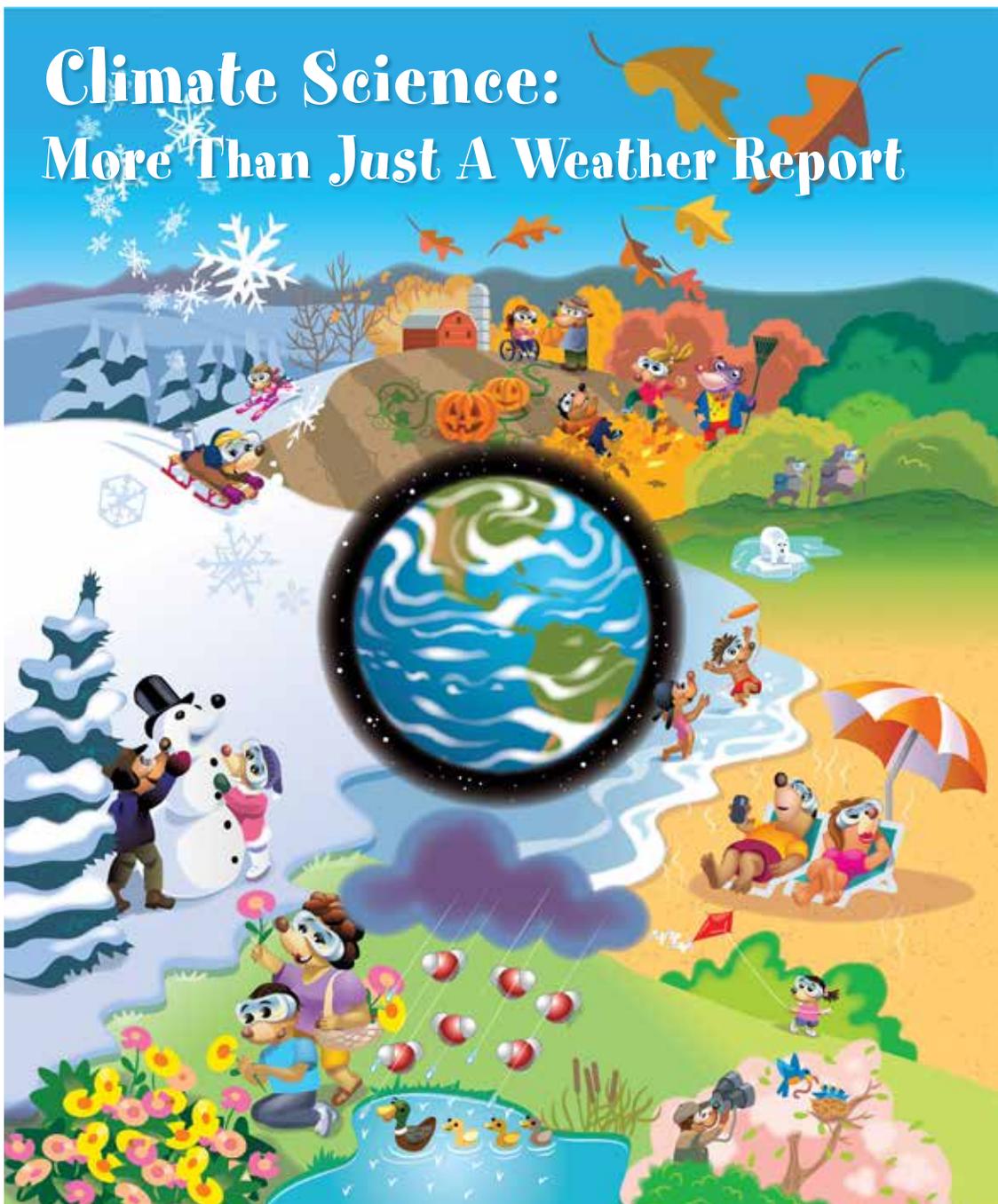


# Celebrating Chemistry

CHEMISTS CELEBRATE EARTH DAY

AMERICAN CHEMICAL SOCIETY

## Climate Science: More Than Just A Weather Report



# The Adventures of Meg A. Mole, Future Chemist

**Dr. Bassam Z. Shakhashiri,  
Professor of Chemistry**

**M**y travels this year brought me all the way to Madison, Wisconsin where I met Dr. Bassam Shakhashiri. Dr. Shakhashiri is a professor of chemistry at the University of Wisconsin-Madison. Aside from teaching, he loves to volunteer in the community teaching everyone about how science is fun!

I asked Dr. Shakhashiri to tell me more about his work. He explained, "I work with kids ages 5 to 95 and beyond to share the joy of learning science by doing fun experiments. In my class I have 350 college students. Outside of class I reach thousands of people in person — at shopping malls, conventions, museums, schools and universities — and thousands more on radio, and millions on television and the Internet."

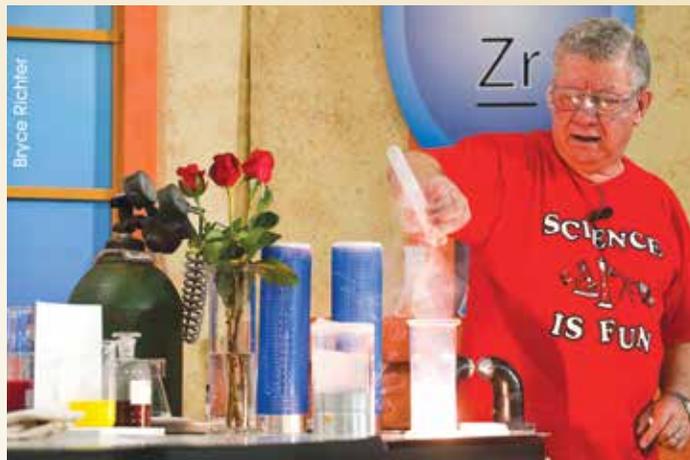
He told me, "I wear my Science Is Fun T-shirt and my Science Is Fun button everywhere I travel. I meet with people at the White House, in the US Congress, at state capitols, in zoos and botanical gardens, and lots of other places around the world."

He added, "I write books to help other teachers explain and demonstrate chemistry to their students. In 2012, I was president of the American Chemical Society! This was a great honor and fantastic opportunity to tell everyone about the beauty of chemistry and what chemists do."

Dr. Shakhashiri told me about his interest in chemistry as a child: "I grew up in Lebanon, and when I was young my mother knitted me a yellow sweater. I loved its bright color. I started to wonder: What makes it yellow? What is yellow? How long will the color last? Will the color match my favorite pants?"

"So many things in our world are colorful: blue sky, white clouds, green trees," said Dr. Shakhashiri. "Color was everywhere, and ever-changing, and I wanted to understand it! As I grew up and studied science, it was very satisfying to learn explanations for my childhood questions."

He enjoyed conducting experiments as a child. With his parents' help, he would safely conduct experiments in the kitchen. He liked "watching color changes, playing with soap bubbles and wondering about their colors and also why they float and pop." Sometimes he even learned how to hook up electric circuits!



Dr. Shakhashiri decided to go into science because he "wanted to understand our beautiful complex world and how scientists can help protect our planet from destruction." His favorite subjects in school were science, religion, and philosophy.

Now that he is an adult, I asked Dr. Shakhashiri what he has enjoyed so much about his job. He told me that he loves to "share fun experiments with children and their parents. I have thousands of letters and drawings from children who have watched my shows in person and on television."

To learn more, he told me I could tell all of my friends to visit his website at [www.scifun.org](http://www.scifun.org). "You can browse around on our website," he told me, "especially where we have posted experiments you can do at home."

He also told me all about how many children come to his Science is Fun shows, "to see exciting experiments and learn about science. The biggest show takes place every holiday season, and is called 'Once Upon a Christmas Cheery, In the Lab of Shakhashiri.' The event just celebrated its 45th anniversary!"

For those who cannot go to one of his shows, there is a YouTube channel called "WISLscifun" that everyone can visit! I hope everyone checks it out and agrees that Science IS Fun!

## Personal Profile

**FAVORITE COLOR?** Red

**FAVORITE PASTIME/HOBBY?**

Listening to music

**ACCOMPLISHMENT YOU'RE PROUD OF?**

My daughter

**ABOUT YOUR FAMILY?**

My wife June and I live in Madison with our dog, Oliver. Our daughter, Elizabeth, (who recently climbed Mount Kilimanjaro!) graduated in 2007 from UW-Madison, and received her law degree from the University of Michigan Law School in Ann Arbor in 2010; she and her husband Bob live in Chicago.



## Words to Know

**Climate science:** the study, over long periods of time, of weather patterns and the conditions that contribute to the types of weather we experience.

**Meteorologists:** scientists who study weather and predict conditions of temperature, humidity, precipitation, and wind in the near future for a certain area.

**Carbon dioxide:** also written as CO<sub>2</sub>, this is an invisible gas found naturally in small amounts in our atmosphere. It is produced when animals exhale, fossil fuels are burned, volcanos erupt, and plants decay.

**Oxygen and nitrogen:** gases that make up most of the air we breathe.

**Particulate matter:** tiny pieces of solid or liquid that float in the air.

**Air pressure:** the force of air pressing on everything at the earth's surface.

**UV light:** ultraviolet rays emitted by the sun that cause sunburn.

**Greenhouse gases:** heat-trapping gases in the air.

**Fossil fuels:** substances formed from carbon that existed in plants and animals that lived millions of years ago. Examples of fossil fuels include coal, oil, and natural gas.

## What is the American Chemical Society?

The American Chemical Society (ACS) is the largest scientific organization in the world. ACS members are mostly chemists, chemical engineers, and other professionals who work in chemistry or chemistry-related jobs. The ACS has more than 158,000 members. ACS members live in the United States and different countries around the world. Members of the ACS share ideas with each other and learn about important discoveries in chemistry during scientific meetings held around the United States several times a year, through the use of the ACS website, and through the many peer-reviewed scientific journals the ACS publishes. The members of the ACS carry out many programs that help the public learn about chemistry. One of these programs is Chemists Celebrate Earth Day, held annually on April 22. Another of these programs is National Chemistry Week, held annually the fourth week of October. ACS members celebrate by holding events in schools, shopping malls, science museums, libraries, and even train stations! Activities at these events include carrying out chemistry investigations and participating in contests and games. If you'd like more information about these programs, please contact us at [outreach@acs.org](mailto:outreach@acs.org).

## Celebrating Chemistry

is a publication of the ACS Department of Volunteer Support in conjunction with the Committee on Community Activities. The Department of Volunteer Support is part of the ACS Division of Membership and Scientific Advancement. Limited copies are available free of charge through your local section's Chemists Celebrate Earth Day and National Chemistry Week Coordinators.

### PRODUCTION TEAM

**Alvin Collins III**, Editor  
**Rhonda Saunders**, RS Graphx, Inc., Layout and Design  
**Jim Starr**, Illustration  
**Eric Stewart**, Copyediting  
**Aviva Westheim**, Puzzle Design

### TECHNICAL AND SAFETY REVIEW TEAM

**Michael Tennesand**, Scientific Adviser  
**Lynn Hogue**, Consultant, Committee on Community Activities  
**George Heard**, Chair, Committee on Community Activities

### CHEMISTS CELEBRATE EARTH DAY THEME TEAM

<b>George Fisher</b> , Chair	<b>Sheila Kanodia</b>
<b>Janet Asper</b>	<b>Ressano Machado</b>
<b>Chris Ciolli</b>	<b>Alex Madonik</b>
<b>Melissa Golden</b>	<b>Analice Sowell</b>
<b>George Heard</b>	<b>Sanda Sun</b>

### DIVISION OF MEMBERSHIP AND SCIENTIFIC ADVANCEMENT

**Denise Creech**, Director  
**John Katz**, Director, Member Communities  
**Alvin Collins III**, Manager, Volunteer Support

### ACKNOWLEDGEMENTS

Meg A. Mole's interview was written by **Kara Allen**.

*The activities described in this publication are intended for elementary school children under the direct supervision of adults. The American Chemical Society cannot be responsible for any accidents or injuries that may result from conducting the activities without proper supervision, from not specifically following directions, or from ignoring the cautions contained in the text.*