



## A MESSAGE FROM THE EXECUTIVE DIRECTOR

In 2014, CEF celebrated two milestone anniversaries—25 years as an organization and 10 years of the You Be The Chemist Challenge®. Here is our 2014 'yearbook.' It's filled with pictures and stories from the past twelve months: students discovering the thrill of a new chemistry experiment, Challenge participants celebrating their hard-earned trophies, educators learning ways to bring new hands-on learning techniques into their classrooms.

Yearbooks don't just mark the passage of time—they also invite you to look ahead to the future, to the not-so-far-off successes, career paths, and creative ventures of today's teenagers. 75% of Nobel Prize winners in science say their passion for science stemmed from an extracurricular program—we envision a future Nobel winner citing the YBTC programs as the moment when they fell in love with chemistry. We can't wait to see our future scientists tackle 21st-century challenges and drive new technological innovation. CEF's programs have already motivated thousands of students to study chemistry, explore the world through science class or after-school science clubs, and learn about career paths in the sciences that are both challenging and exciting. What you're holding is a single year of photographs and stories, but it represents decades of scientific discoveries and triumphs to come.

Flip through the pages and you'll find narratives highlighting CEF's growth and expansion nationwide—like new Challenge states Arkansas, Iowa, and Oregon sending state champions and nominated educators to Philadelphia for the first time. Arkansas representative Michaela Matocha told us she wants to be the first woman to set foot on Mars, and that the Challenge has inspired her to study chemistry in her free time! With the debut of NASA's Orion deep space exploration program, we can't help but imagine Michaela—or any of our Challenge participants—being among the first astronauts and scientists to travel to Mars. When you spark a love of science in elementary- and middle-school students, there's no limit to how far their exploration can take them!

So this year, we're inviting you to crack open our yearbook and explore all of the successes, stories, and smiling faces that have marked CEF's 2014—and then imagine where all of this is going to lead. And don't miss our sneak peek of what we're planning as we move into the new year—we're already working to make 2015 our biggest and best year yet!

CEF was just voted "most likely to inspire students to love science," and with your support, there's no limit to how far we can go!

Best wishes,

John Rice
Executive Director



## **OUR STORY**

The Chemical Educational Foundation® (CEF) is a national organization committed to enhancing science education! CEF's popular You Be The Chemist® (YBTC) programs are geared towards educators and students in grades K–8. By focusing on these grade levels and emphasizing the central role of chemistry in all the sciences and in our everyday lives, CEF strives to inspire our future leaders to pursue science-related careers and to improve the overall understanding and appreciation of chemistry and chemicals.

Headquartered outside of Washington, DC, CEF believes in a community approach to science education and relies on a vast network of volunteers to put the YBTC programs into action nationwide! CEF recognizes that the educational needs of each community, school, and classroom vary, and as such, encourages volunteers to work together to incorporate CEF programs as they work best for their community. CEF is primarily funded by companies and individuals in industries that rely on the science of chemistry. For a full list of our contributors, please see pages 22-24.





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# "The information [my daughter] gained from the You Be The Chemist competition is going to be with her forever. It sparked an interest in the science field that she wants to learn more about." - Parent of a 2014 National Challenge Participant

## **FUNDING & INVESTMENT**

YOU BE THE CHEMIST

CHALLENGE® ORGANIZER

A group of education and industry professionals who

A group of individuals with a broad range of experience in

oversee the growth and development of CEF's You Be The

education, industry, community outreach, and the sciences who

represent over 100 other Challenge Organizers in guiding

You Be The Chemist Challenge® activities and development.

Horn

An experienced team of high-level industry executives who guide the Foundation in its fundraising and investment activities and explore new funding opportunities.

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## CONTENT **DEVELOPMENT TEAM**

COMMITTEES

This team of volunteers with experience in the sciences, academia, and industry maintains the scientific integrity of CEF's You Be The Chemist® programs by helping develop and review program content.

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## YBTC ACTIVITY GUIDES



The award-winning You Be The Chemist® (YBTC) Activity Guides are a fun, inexpensive way for educators to bring hands-on science to K-8 students. These user-friendly teaching aids are jam-packed with over 50 lesson plans, with separate lesson sets geared towards grades K-4 and 5-8. Download the Activity Guides for FREE or purchase a flash drive at www.chemed.org!



7,375 DOWNLOADS



163,610 STUDENTS REACHED

The number of Activity Guide downloads reached 7,375 this year! In 2014 CEF started asking those downloading the guides to indicate how many students they expected to reach with the Activity Guide content. So far, that number is 163,610 students!

Beyond a number of marketing efforts and collaborations, CEF held a Back to School promotion to encourage downloads. As part of the fall special, individuals who purchased Activity Guide flash drives received a goodie bag full of YBTC treats!

## Make a Milk Rainbow

Want to try an Activity Guide experiment? Create swirls of color in milk and explore a property of liquids known as surface tension through the "Milk Rainbow" lesson! You'll need:

- Whole milk
- Waterproof plate or shallow bowl
- Food coloring
- Liquid dish soap
- Cotton swabs

Visit http://chemed.org/ybtc/guides/ to download the full lesson—and many more!

## FIFTH EDITION

Plans are already underway for the Fifth Edition of the Activity Guides, which will be released in 2016. CEF staff is busy working with curriculum experts and chemistry professionals on new components to make these award-winning resources better than ever!









Organizations across the country took note of the Activity Guides in 2014, sharing them with thousands of educators and parents. Read on for highlights!

The National Science Teachers Association (NSTA) featured the guides in the summer issue of NSTA Reports, the newspaper that goes out to all NSTA members.

CEF contacted a number of bloggers from the science education and homeschool communities who were happy to post about these free resources.

Science Buddies showcased the Activity Guides on their website, promoting the activities on a partners page and in public service announcements over a three-month period.

National Public Radio's (NPR) Science Friday featured the Activity Guides "Balloon Rockets" experiment on their website and social media, reaching over 40,000 people!







Last May, CEF staff volunteered at a STEM Fair at a family youth center in Washington, DC. The event was sponsored by a local chapter of Kiwanis International, and featured hands-on science stations run by volunteers. Equipped with Activity Guide lessons "T-Shirt Tie-Dye," "Goofy Putty," and "Wacky, Waxy Watercolors," CEF led hands-on science activities for around 30 students from grades K-12. Some of the kids had so much fun, they came back to the CEF stations to do the Activity Guide lessons again!







## YBTC ESSENTIAL ELEMENTS



The You Be The Chemist (YBTC) Essential Elements<sup>5M</sup> program is a professional development workshop designed to help K−8 educators—our "essential elements" in education—teach chemistry concepts through engaging, hands-on activities.

### HIGHLIGHTS

The majority of this year's 21 workshops were sponsored by companies with a local presence in the workshop area! Sponsorships allow the participating educators to receive free workshop supplies, take-home materials, and continuing education credits.

CEF trained nine Certified Essential Elements Instructors in August. Each of these instructors will coordinate and lead two Essential Elements workshops in their local communities in the 2014-2015 school year!

A series of workshops in Norristown, PA in October caught the attention of a local news station – which showed up with a film crew! You can watch the footage on CEF's YouTube channel: www.youtube.com/cefybtc.

CEF thanks The Dow Chemical Company, Producers Chemical Company, Brenntag North America, and A.G. Layne, Inc. for sponsoring Essential Elements workshops in 2014!



Arizona science teachers demonstrate "Antigravity Water" for their peers at an Essential Elements workshop in Maricopa County, AZ in February.



Newly Certified Essential Elements Instructors following a training at the CEF offices in August.

# ESSENTIAL ELEMENTS is in demand.

Essential Elements workshops are in high demand and the program has grown rapidly over the past three years! One new program "element" is the selection and training of Certified Essential Elements Instructors, who are located all over the country and can assist CEF in leading workshops in their local areas. CEF's goal is to build a network of these instructors nationwide who can provide high-quality, hands-on education that YBTC is known for. Ultimately, this will allow us to hold even more Essential Elements workshops in the years to come.

Beginning in August 2014 with a training conference at our offices in Arlington, VA, the program is off to a great start. Nine Certified Instructors completed the training and are coordinating two workshops each in their local communities, and we have already received excellent feedback on the workshops conducted thus far. We are excited about the possibilities that instructor certification creates for future Essential Elements program growth. Watch out, world—CEF is bringing professional development to a school district near you!

"Your workshop reminded me of the joy of investigating and originating questions from the students."

—Grade K-4 educator and Essential Elements workshop attendee, Philadelphia

## "Chemistry doesn't have to be difficult! I can do this. I WILL do this!"

—Grade K-4 educator and Essential Elements workshop attendee, Philadelphia

"[The workshop] encouraged me to use more real world connections."

—Grade 5 educator and Essential Elements workshop attendee, Marietta, GA



"My kids will love these experiments! Thanks for all the cool ideas."

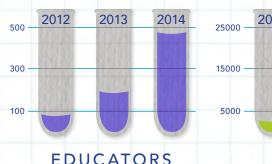
—Grade 2 educator and Essential Elements workshop attendee, Marietta, GA

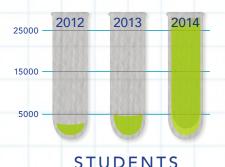
# Essential Elements is CEF's fastest growing program.

IN 2014, CEF TRAINED

490 TEACHERS

**26,610 STUDENTS** 





"I loved seeing how hands-on doesn't have to be complicated."

—Grade 3 educator and Essential Elements workshop attendee, Marietta, GA

Middle school science teachers test out their hypotheses at an Essential Elements workshop in Norristown, PA in October. Each teacher received continuing education credits as part of the workshop. CEF thanks The Dow Chemical Company Foundation for sponsoring the workshop.

# YBTC CHALLENGES LOCAL AND STATE

The You Be The Chemist (YBTC) Challenge® is an exciting academic contest that uses the drama of competition to encourage grade 5-8 students to explore important chemistry concepts and their real-world applications. The program partners science industry companies and organizations with local schools and students, fostering valuable community connections.



## THE CHALLENGE IN 2013-2014

CEF celebrated the 10th anniversary of the Challenge during the 2013-2014 cycle, which was the largest ever! This year, we added THREE NEW STATES for a total of 30 and had NEARLY 25,000 STUDENTS participate nationwide. Each student who participated in the Challenge—whether they won or not—had the opportunity to deepen their understanding and appreciation of science, while engaging with industry members in their community.

This year, CEF also worked with national senate and congressional offices to secure official congratulatory letters for 23 STUDENTS who earned top place at a Local or State Challenge competition. Four national representatives from Illinois, Michigan, and New Jersey even attended their State Challenge event to show their support for science education!

See pages 12-14 for a list of Local and State Challenge sponsors!



Virginia Challenge Champion, Varun Mosur and his teacher, Jayne Bowen.







Challenge Organizers from BASF Corporation at the 2014 Organizer Conference. From left, Molly Rosig (NJ), Shakir Ratani (NY), Stephanie Carouthers (NC & SC), and Dawn Hamilton (IA).

## **ORGANIZER CONFERENCE**

CEF welcomed over 40 dedicated volunteers to Alexandria, VA in September for the annual Challenge Organizer Conference. The theme was "Meeting the Challenge!" and staff and Organizers identified and discussed ways to work together to meet our collective goals for program growth. Beyond the formal meetings, Organizers got a chance to mingle and chat about how they're bringing the Challenge to their communities at a reception and dinner held at a local restaurant.

"The Challenge has helped [my children] tremendously in terms of their knowledge and exposure not only in chemistry, but physics and biology too. In the process of preparing for the Challenge, they discovered their passion for science."—Prashant Mehta, Illinois Challenge Organizer



2422 students participated in the YBTC Challenge from States—including

"[The Challenge] has been a wonderful experience for my child/family. It has opened our eyes to career and educational possibilities that we were not aware of." —Parent of 2014 National Challenge participant

"[The Challenge] showed me how chemistry impacts everything in life." —2014 National Challenge participant



Florida Challenge Champion, Mannie Saint-Amand, stands with his supporters at the Sarasota County Local Challenge.

"[After participating in the Challenge], I have now been thinking of becoming a chemist and starting my own company." -2014 National Challenge participant



Berks County Local Challenge participants wait for the competition to get started (PA).

"Competing in [the] You Be the Chemist [Challenge] lays the foundation for a brighter future for us all."

—U.S. Representative Tammy Duckworth (IL-8), in a congratulatory letter to the Illinois Challenge Champion, Audrey Gallier



Texas State Challenge participants following the competition.





# SITES AND SPONSORS 2014 local You Be The Chemist Challenge\*



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Sponsored by: Alabama A&M University; BASF Corporation; Industrial Chemicals, Inc.; Research Solutions Group Inc.; Sign-a-rama

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## Sponsored by: NACD WASHINGTON

## **King County**

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## WISCONSIN

**Dane/Waukesha Counties** Sponsored by: Brenntag Great Lakes, LLC



Iberville Parish & West Baton Rouge Parish Local Challenge participants and volunteers (Baton Rouge, LA). Thanks to The Dow Chemical Company for sponsoring

2014 YEAR IN REVIEW • 13

and organizing this Local Challenge!

choose competition questions, pick prizes, arrange venues, confer with judges—and more! Why do they do all this? Because they believe in the importance of science education and providing STEM opportunities for our youth. Our Challenge Organizers have made the past 10 years of the Challenge possible, and we can't wait to help them continue championing science education in their communities!

## **Berks County**

Sponsored by: BASF Corporation;

**NEW YORK** 

At CEF, we see countless photos of Challenge participants, grinning from ear-to-ear with their trophies and newfound confidence in their science skills. Our Challenge Organizers don't always appear in these photos, but we know they stand firmly behind each group of smiling students, making the program possible. These amazing volunteers recruit schools, network with sponsors,



CEF congratulates 12-year-old Audrey Gallier of Brookfield, IL, who earned the title of **2014 National Challenge** Champion on June 23. Audrey was the second-youngest student at the National Challenge, but that didn't stop her from beating out nearly 25,000 students nationwide to earn top place. "To win is fun and I didn't expect it," Audrey told a reporter from the Chicago Tribune. She said that tough questions about isotopes, pH values, and radioactivity didn't faze her: she wasn't nervous before the competition! Audrey hopes to attend the Illinois Mathematics and Science Academy (IMSA) and eventually study veterinary medicine in college. Go Audrey!

# SPONSORS 2014 State You Be The Chemist Challenge®

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Chemical Industry Council of Illinois, Des Plaines, IL

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#### LOUISIANA CHALLENGE

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BASF Corporation, Florham Park, NJ; Brenntag North America, Inc., Reading, PA

#### **OHIO CHALLENGE**

American Chemical Society, Toledo Local Section, Toledo, OH; Bowling Green State University, Bowling Green, OH; Imagination Station, Toledo, OH; Palmer Holland, Inc., North Olmsted, OH; PVS-Nolwood Chemicals. Inc. Detroit, MI; University of Toledo, Toledo, OH

#### **PENNSYLVANIA** CHALLENGE

**BASF Corporation, Evans** City, PA; Brenntag North America, Inc., Reading, PA: The Dow Chemical Company, Philadelphia, PA; Penn State University, University Park, PA

#### **SOUTH CAROLINA** CHALLENGE

BASF Corporation, Charlotte, NC; Momentive Specialty Chemicals, Inc., Roebuck, SC

#### **TEXAS CHALLENGE**

Accron, LP, Magnolia, TX; Bossco Industries, Inc., Houston, TX; Brenntag Southwest, Inc., Lancaster, TX: The Dow Chemical Company, Freeport, TX; Expo Chemical Company, Magnolia, TX; Houston Chemical Association, Houston, TX; Raw Materials Corporation, Houston, TX; Seth Cohen, Elmendorf, TX; Shell Chemical LP, Houston,

#### VIRGINIA CHALLENGE

BASF Corporation, Suffolk, VA; National Association of Chemical Distributors, Arlington, VA







In 2014 CEF celebrated the 10th anniversary of the You Be The Chemist Challenge® with our largest National Challenge event ever! Over 300 chemical industry representatives, family members, government officials, and educators came together to cheer on the 30 students who represented their states at the national competition. CEF added special elements to the 2014 National Challenge to mark this big anniversary, including honoring two past National Challenge Champions at the event who shared how the Challenge inspired them to pursue a career in chemistry!

See page 26 for a look at the Challenge over the past 10 years!



CEF supporters from The Dow Chemical Company don party hats in honor of the National Challenge's 10th anniversary during the Celebration Dinner & Award Ceremony.





National Challenge participant Justin Chan poses for a photo with his proud parents following the competition.



Third Runner-Up Varun Mosur enjoys lunch with his family the day of the competition. Several of Varun's relatives traveled from India to cheer him on!

## NATIONAL CHALLENGE **PARTICIPANTS**

MICHAEL ALLEN, Ohio

Second Runner-up

VIVIANA ARAGON, Alabama

PARVATHY BALAMURUGAN, Louisiana

JAMES BOONE, South Carolina

DAX BROUGH, Utah

JUSTIN CHAN, Delaware

**GRANT CHEN, Oregon** 

MARC CHMIELEWSKI, Pennsylvania

**DERMOT CURTIN, New Jersey** 

LOGAN FARRINGTON, Arizona

JASPER FERNCROMBIE, District of Columbia

**AUDREY GALLIER, Illinois** 

Champion!

ERIC GAO, Connecticut

**BRENDAN GIBSON**, California

**HUNTER KANE, Maryland** 

JUSTIN KAY, Indiana

RISHIKESH MADABHUSHI, New York

**ELAINA MALTAS, lowa** 

MICHAELA MATOCHA, Arkansas

**AVERY MERRITT, Georgia** 

**NICHOLAS MIKLAUCIC, North Carolina** 

**VARUN MOSUR, Virginia** 

Third Runner-up

**AMAR MOTURU,** Texas

First Runner-up

MAX PARR, Michigan

**EMMANUEL SAINT-AMAND, Florida** 

**FELICITY SHIRKEY, Kentucky** 

**ELIJAH SKALSKY, Wisconsin** 

**GARRETT THORNTON,** Oklahoma

**AUM UPADHYAY, Washington** 

**GUS WIEDEY.** Massachusetts

## 2014 NATIONAL CHALLENGE SPONSORS

DIAMOND



#### PLATINUM







lyondellbasell





## GOLD

Monument Chemical Science Buddies Thames & Kosmos Univar

SILVER

Horn

National Association of Chemical Distributors

## BRONZE

Access Chemicals & Services, LLC Coast Southwest, Inc. PQ Corporation Turning Technologies, LLC

Thank you to all of the volunteers, sponsors, students, and educators who made the 2014 National Challenge a success!

WHERE ARE THEY NOW?

Find out what four of our past National You Be The Chemist Challenge®

Champions have been up to since they won!



2007 National You Be The Chemist Challenge® Champion

Biochemistry major at Temple University in the Honors Program.

"My experience with YBTC was simply unforgettable. Participating in the Challenge is what sparked a love for chemistry within me. It has more than impacted many life decisions. I was eager to learn more about the subject through higher education."



2005 National You Be The Chemist Challenge® Champion

Chemistry and mathematics double major at the Mississippi University for Women.

"I spent a lot of time undecided on my major, but always came back to chemistry because it was the one area where I already knew I could excel."



2009 National You Be The Chemist Challenge® Champion

Chemical Engineering major with a concentration in Biomolecular Engineering and a minor in Chemistry at Louisiana State University.

"Participating in the Challenge has had and continues to have an unimaginable impact on my life."



2011 National You Be The Chemist Challenge® Champion

Wants to attend a top science university to study physics. Plans to do university research and possibly become a professor.

"I have been dead set on a career in science since I was about six years old! I keep myself busy by tinkering with electronics and building rockets with my best friend."

2014 YEAR IN REVIEW • 17

## NATIONAL CHALLENGE PAST CHAMPIONS



CEF Executive Director John Rice with two past National Challenge Champions, Andrew Lingenfelter and Maggie Leake.

In honor of the 10th anniversary of the Challenge, CEF invited Maggie Leake and Andrew Lingenfelter—the first and seventh National Challenge Champions, respectively—to attend the event and share their story. Maggie and Andrew participated in a special Q&A session for attendees at the Welcome Dinner, where they answered questions about their career plans and National Challenge experience.

At the Celebration Dinner & Award Ceremony, these past Champions wowed the audience with speeches about the impact the Challenge made on their lives and goals. Andrew discussed his plans to study physics at a top university, and highlighted his experience doing a job shadow with BASF Corporation as a result of the Challenge. Maggie shared how the Challenge gave her the confidence to pursue a double-major in chemistry and mathematics, while working with a professor to do computerized chemistry research on Alzheimer's prevention.

Beyond Maggie and Andrew, CEF reached out to the other past Challenge Champions. We were thrilled to learn that each one of them is pursuing or plans to pursue a STEMrelated career!



CEF staff joined The Dow Chemical Company at the 2014 Philadelphia Science Festival in May, doing hands-on activities from the You Be The Chemist Activity Guides with guests.

Chemical Industry Council of Illinois Universities Council of

DowAgro Sciences

Louisiana

**Brenntag North** America, Inc.

KITES, Inc.

Penn State University

Triangle Coalition for STEM Education

Company Science 6 Buddies ≥

BASF Corporation

**Organizations** 

Science

**O** Chemicals

The Dow

Chemical

5 Shell

0

Chemical Industry

The E Franklin o The Franklin of House

CEF wants to partner with your company or organization! Contact us for more information on how to get involved!

# PARTNERS IN SCIENCE EDUCATION

CEF partners with chemical companies, educational organizations, universities, and schools to bring the You Be The Chemist® (YBTC) programs to communities nationwide and increase science education opportunities for K-8 students and educators. Below are just a few of the many groups we've worked with in 2014!



**SCIENCE BUDDIES**—CEF signed a Memorandum of Understanding with Science Buddies in late 2013 to highlight the science education initiatives of both organizations. In 2014, as part of this agreement, Science Buddies recognized CEF on its website and social media pages and incorporated select YBTC Activity Guide lessons into the Science Buddies Activities. www.sciencebuddies.org



TRIANGLE COALITION FOR STEM EDUCATION—CEF has been working with the Triangle Coalition for STEM Education to promote STEM education initiatives. Staff attended the Triangle Coalition's annual conference in October and presented information about CEF and our programs during a webinar, which had around 100 registrations! www.trianglecoalition.org



## NATIONAL ASSOCIATION OF CHEMICAL DISTRIBUTORS (NACD)—

CEF works with NACD member companies to bring the YBTC programs to communities nationwide. CEF thanks the staff and membership of NACD for their support and involvement in our programs, www.nacd.com



Students at the Iberville Parish & West Baton Rouge Parish Local Challenge (Baton Rouge, LA). Thanks to The Dow Chemical Company for sponsoring and organizing this site!



THE DOW CHEMICAL COMPANY is a Diamond Sponsor of all of CEF's programs. Together, CEF and Dow are working to bring the YBTC programs to Dow sites nationwide. In 2014, CEF and Dow renewed a Memorandum of Understanding to support the

continued partnership between the two organizations in promoting STEM education initiatives across the country. In addition to their corporate sponsorship of the YBTC programs, Dow's employees volunteer their time to bring these programs to K-8 students and educators at Dow sites nationwide. www.dow.com

"As Diamond Sponsor of the You Be The Chemist® (YBTC) Programs, The Dow Chemical Company believes that investing in our youth is critical for the future of the industry and our nation as a whole. Through its commitment to supporting programs like YBTC, The Dow Chemical Company aims to engage America's youngest students in a lifelong pursuit of knowledge, encourage their natural curiosity about the world around them, and inspire them to pursue leadership and innovation."

 Rob Vallentine, Director, Corporate Citizenship, The Dow Chemical Company President & Executive Director, The Dow Chemical Company Foundation

# MARKETING AND COMMUNICATIONS

In 2014, CEF extended the reach of its communications, marketing, and public relations efforts in communities nationwide and through our industry sponsors.

### MEDIA COVERAGE

We weren't the only ones who got excited about the 2014 National Challenge—the Philadelphia Inquirer and the Chicago Tribune both published full-length stories about winner Audrey Gallier! You can read both articles by heading to the "CEF In The News Page" of our website!







## PERIODIC TABLE POSTER

In response to educator demand, we're developing a poster of the periodic table of the elements—with a twist! Our periodic table will feature profiles of professionals in chemistry-related careers, as well as information about the *You Be The Chemist®* programs.

## SCIENCE FRIDAY

In August, CEF partnered with the National Public Radio (NPR) show, Science Friday, to to post an experiment from the Activity Guides on the Science Friday blog. The Science Friday staff even tried out the activity (building balloon rockets) and posted a video clip of their success on their website!

Science Friday's Facebook post about the activity received **OVER 40,000 VIEWS**, and the blog received nearly 1,500 page views, with viewers spending an average of 4.5 minutes on the site—much longer than usual. Twitter posts about the activity were popular too, with 13,000-16,000 views each!





CEF & The Dow Chemical Company at the NSTA Annual Conference!

## EVENTS AND CONFERENCES

CEF staff and partners attended a variety of events and conferences nationwide in order to promote the You Be The Chemist® programs! These include:

**ZOZUDE ACADEMIC COMPETITIONS CONFERENCE**, March 10–11, San Francisco, CA

NATIONAL SCIENCE TEACHERS ASSOCIATION ANNUAL CONFERENCE, April 3–6, Boston, MA

PHILADELPHIA SCIENCE FESTIVAL CARNIVAL, May 3, Philadelphia, PA

KIWANIS STEM EDUCATIONAL CARNIVAL, May 15, Columbia Heights, Washington D.C.

**NACD'S CHEMEDGE**, August 19–22, Nashville, TN

INTERNATIONAL STEM EDUCATIONAL ASSOCIATION CONFERENCE, October 12-14, Branson, MO

AMERICAN CHEMICAL SOCIETY (ACS) NORTH JERSEY SECTION CHEMEXPO, October 18, Jersey City, NJ

SCIENTIFIC RESEARCH AND EDUCATION NETWORK (SCIREN) NETWORKING EVENT, November 13, Raleigh, NC

NORTHERN ILLINOIS SCIENCE EDUCATORS CONFERENCE, November 17, Naperville, IL

NACD'S ANNUAL MEETING, November 17–21 Scottsdale, AZ

**SOCMA ANNUAL DINNER**, December 8, New York, NY

SOCIETY OF COSMETIC CHEMISTS ANNUAL MEETING, December 11–12, New York, NY

## NOW SHOWING—2014 NATIONAL CHALLENGE VIDEO!

For behind-the-scenes details and interviews from the 2014 National YBTC Challenge, visit CEF's YouTube channel: youtube.com/user/CEFYBTC



## NEW MARKETING MATERIALS!





These postcards about the Activity Guides and the Essential Elements program were designed for handing out at conferences and schools! Contact CEF if you'd like copies.

## **NEW WEBSITE!**

Keep your eyes peeled for a brand new, fully redesigned CEF website in March, 2015! The new site will feature an updated design and navigation. Stay tuned!

## SOCIAL MEDIA

CEF's following on both Twitter and Facebook has grown enormously over the last year! CEF celebrated National Chemistry Week with a special candy-themed social media campaign, including an interview with a candy chemist at The Hershey Company! Check out the back cover for ways to follow us on

social media!



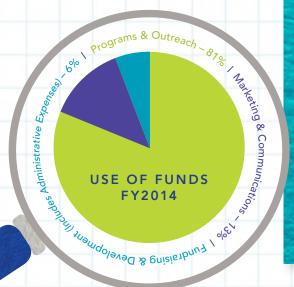
Sarah Houle, a Staff Scientist in Sweets & Refreshments Product Development with The Hershey Company, answered our questions about what it's like to work in food chemistry and why students should consider following in her footsteps!

2014 YEAR IN REVIEW • 21

# 2014 FINANCIALS Funding Success and Sustainable Growth

CEF is a not-for-profit 501(c)(3) charitable entity. Our financial position remained strong in 2014, thanks to the overwhelming commitment to CEF's mission from the chemical industry. Our programs continue to grow and expand, which would not be possible without the support of our valuable contributors.

In FY2014, 94% of CEF's total operating expenses were used for the development, implementation, and marketing of the *You Be The Chemist®* programs to enhance science education opportunities for grade K-8 students and educators.



	FINANCIAL DATA	FY2014	FY2013
	Total Revenue	1,270,324	1,333,609
	Expenses		
	Programs-Outreach & Development	1,047,387	907,808
	Marketing & Communications	170,586	132,938
	Fundraising & Administrative	73,641	58,880
	Total Expenses	1,291,614	1,099,626
	Change in net assets	(21,290)	233,983
	Net assets, beginning of year	2,151,453	1,917,470
	Net assets, end of year	2,130,163	2,151,453

## 2014 INDIVIDUAL CONTRIBUTORS

As of 1/1/2015 • Visit the CEF website for the most current list of individual contributors.

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Eric R. Byer
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Victoria Whitaker

**Betsy Witteman** 



## 2014 CORPORATE CONTRIBUTORS

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Allied Universal Corporation
ALTIVIA Chemicals, LLC
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American International Chemical, Inc.
Americhem Sales Corporation

Andes Chemical Corporation
ASHTA Chemicals Inc.
Barium & Chemicals, Inc.
Barton Solvents, Inc.
Basstech International LLC

Bedford Specialty Sales, Inc.
BHS Marketing LLC
BKM Resources, Inc. - Global Chemicals

Boehle Chemicals, Inc. Borden & Remington Corp. Bossco Industries, Inc.

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Brenntag North America, Inc.

Carus Corporation
Charkit Chemical Corp.
Chem One Ltd.

Chem/Serv, Inc. CheMarCo, Inc.

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Chemical Formulators Inc.

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ExxonMobil Chemical Company FBC Chemical Corp.

Fitz Chem Corporation

Florida Chemical Supply, Inc. FMC Corporation

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GMZ, a division of KODA Distribution Group

Greenchem Industries LLC
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Hawk Chemical Company LLC

Hawkins, Inc.

Horn

Houghton Chemical Corporation

Hydrite Chemical Co.

ICL Performance Products LP

Ideal Chemical & Supply Co.

Independent Chemical Corporation

Industrial Chemicals Corp.

Industrial Chemicals, Inc. (Birmingham, AL)
Industrial Chemicals, Inc. (Richmond, VA)

Intercoastal Trading Inc.
Interstate Chemical Co., Inc.

J.H. Calo Company, Inc.

J. Tech Sales, LLC
JR Hess Company
KJ Technical Directions

KODA Distribution Group

Kohl Marketing, Inc.

Kost USA

Kraft Chemical Company

Lidochem, Inc. Lowe Chemical Co.

LyondellBasell Industries

Maryland Chemical Company, Inc.

Matteson-Ridolfi, Inc.

McCullough & Associates

Miami Chemical

New York Society of Cosmetic Chemists

Niacet Corporation

Occidental Chemical Corp.
Ohio Chemical Services, Inc.

Olin Chlor Alkali Products

P.T. Hutchins Company, a division of KODA Distribution Group

Parchem - fine & specialty chemicals

PhibroChem
Pilot Chemical Company

PPG Industries Foundation

Pride Solvents & Chemical Co., Inc.

Primary Chemicals

Producers Chemical Company PVS-Nolwood Chemicals, Inc.

Radchem Products, Inc.

Ribelin Sales, a division of KODA Distribution Group

Rierden Chemical & Trading Company

Roberts Chemical Co., Inc.

Royal Chemical Company

Royale Pigments and Chemicals, Inc.

S.P. Morell & Company, Inc.

Sal Chemical

Sea-Land Chemical Co.

Seeler Industries, Inc.

Shell Chemical LP

Shell Oil Company

Shepard Bros. Inc.
Silver Fern Chemical Inc.

Society of Chemical Manufacturers

and Affiliates
SolvChem, Inc.

Superior Solvents and Chemicals

Surpass Chemical Co., Inc.

T.H. Hilson Company

Tanner Industries, Inc.

Tarr, LLC

TCR Industries
Technichem, Inc.

The Cary Company

The Dow Chemical Company

The HallStar Company

The M.F. Cachat Company
The Meadows Group, LLC

The Plaza Group

The Wilbur-Ellis Company

Tilley Chemical Co., Inc.
TLC Ingredients, Inc.

Transchemical Inc.

Tri-iso, Inc.

TRInternational, Inc.

Univar

Vivion, Inc.

Walsh & Associates, Inc.

Webb Chemical Service Corp.

Whitaker Oil Company
William B. Tabler Co., Inc.

Wilson Industrial Sales Co., Inc.





## THE CEF PRESIDENT'S CLUB

In 2014, CEF introduced the CEF President's Club, a special level of recognition for chemical distributors that contribute at a level meeting the CEF Board of Trustees' suggested contribution amount of \$50 per million in sales. As of January 1, 2015, 52 companies have joined the President's Club, with many increasing their contribution amount in order to meet the requirements.

The following companies are the inaugural members of the CEF President's Club. We would like to thank all of these companies for distinguishing themselves as specially committed to building the next generation of science professionals and leaders!

As of 1/1/2015 • Visit the CEF website for the most current list of members of the President's Club.

A.G. Layne, Inc. Accron, LP Amchem, Inc. Basstech International LLC

Bedford Specialty Sales, Inc. Bossco Industries, Inc.

Brainerd Chemical Company, Inc.

**Carus Corporation** 

Charkit Chemical Corp.

**Chemisphere Corporation** 

Chem/Serv, Inc.

Chemsolv, Inc.

**CNX** Distribution Cone Solvents, Inc.

D & F Distributing, Inc.

Dunleary, Inc.

Florida Chemical Supply, Inc. Gilbert & Jones Company Inc. Haviland Products Co.

Hawk Chemical Company LLC Horn

**Houghton Chemical Corporation** 

Ideal Chemical & Supply Co.

Industrial Chemicals, Inc. (Birmingham,

Industrial Chemicals, Inc. (Richmond,

Intercoastal Trading Inc. J.H. Calo Company, Inc.

JR Hess Company

Kohl Marketing, Inc. **Kraft Chemical Company** 

**KODA** Distribution Group

Lidochem, Inc.

Maryland Chemical Company, Inc.

Miami Chemical

Ohio Chemical Services, Inc.

PhibroChem

**Primary Chemicals** 

Producers Chemical Company

PVS-Nolwood Chemicals, Inc.

Royale Pigments and Chemicals, Inc.

Sal Chemical

Seeler Industries, Inc.

Silver Fern Chemical Inc.

S.P. Morell & Company, Inc.

**Superior Solvents and Chemicals** Surpass Chemical Co., Inc.

Technichem, Inc.

The M.F. Cachat Company

TLC Ingredients, Inc.

Tri-iso, Inc.

Whitaker Oil Company

Wilson Industrial Sales Co., Inc.

# 2014 CEF AWARDS

## 2014 SOCMA **EDUCATIONAL OUTREACH AWARD**

CEF partners with the Society of Chemical Manufacturers & Affiliates (SOCMA) to present a SOCMA member company or companies with the Educational Outreach Award, honoring companies that are dedicated to enhancing science education opportunities in their communities. CEF presents winners of the award with a \$2500 donation to the charity of their choice.

#### 2014 WINNER

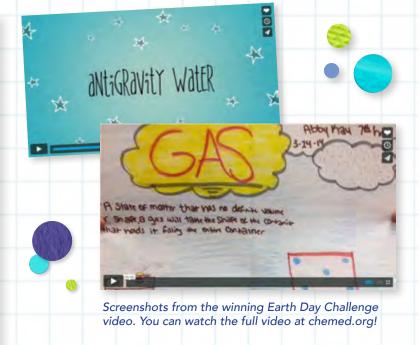
**COMPANY:** Monument Chemical, Brandenburg, KY

WHY THEY WON: Their commitment to STEM education in Kentucky. Monument provided local teachers with free hands-on STEM activities and lab equipment kits. They sponsored the Meade County, KY Local You Be The Chemist Challenge®, the Kentucky State Challenge, and the National Challenge (Gold Sponsor), treating Local Challenge participants to a facility tour and pizza lunch. Monument employees also volunteered at the MacDonald Intermediate School "STEMposium" in Ft. Knox.

**DONATION RECIPIENT: Meade County** School System



CEF President Steve Cornwall awards Monument Chemical at the 2014 SOCMA Annual Dinner



## 2014 EARTH DAY CHALLENGE

WHAT: In 2014, CEF launched the very first Earth Day Challenge, a video contest for grade K-8 classes! The contest encouraged students to explore their world using chemistry, and to celebrate the American Chemical Society's Earth Day theme, "Wonders of Water" by making a video inspired by water-themed activities in the YBTC Activity Guides.

WHEN: We announced the winner on Earth Day 2014!

WHO: The winning video was submitted by Amber Baaso and her 7th grade science class at Glenn H. Wolfe Middle School in Center Line, MI! Titled "Wonders of Water," it showed Baaso's students conducting an experiment called "Antigravity Water" and sharing posters of what they learned.

PRIZES: \$1000 for the class (they took a field trip to the Michigan Science Center!)

\$200 gift card to the Discovery Channel Store (for Ms. Baaso)

Commemorative Plaque (for the school!)

# HISTORY OF CEF

CEF celebrated 25 years as an organization in 2014! We've come a long way, and the future is bright—take a look at how CEF got its start, and where we're headed!

Founded in 1989 by the National Association of Chemical Distributors (NACD) as the "National Association of Chemical Distributors Educational Foundation," CEF's original mission was to create and disseminate educational materials about safe chemical handling and transport, including brochures, bulletins, and videos.

Less than a decade later, the NACDEF (actual acronym!) became a separate entity from NACD, and in December 1997, we officially changed our name to the Chemical Educational Foundation®. With three staff members, we began developing the foundations for an educational kit for younger students, which promoted the exploration of chemistry in daily life. We called it "You Be The Chemist!"

In 2002, CEF held the inaugural Fairfax County, VA Chemistry Spelling Bee, in which middle school students competed to spell words related to chemistry and chemicals. The event garnered positive feedback from teachers and students: CEF was on to something! We moved forward to pilot a regional version in Illinois. But instead of a spelling bee, we wondered: could we run a quiz-bowl style competition in which we asked young students questions about chemistry?

The answer, as it turned out, was a resounding "yes!" The You Be The Chemist Challenge®, which began in 2004, made learning about chemistry, lab safety, and chemical theories fun and competitive. From 2004 to the present, the Challenge has grown from a one-state pilot to a program conducted in 30 states (and counting!) involving nearly 25,000 students in grades 5–8.

With three successful You Be The Chemist® programs now underway, CEF is on track for major growth in the future. In fact, we are aiming to reach 500,000 students in all 50 U.S. states, the District of Columbia, and Puerto Rico by 2024!





National Association of Chemical Distributors Educational Foundation (NACDEF) is founded in

1997

2003

2008

2011

2012

2014

Name is changed to Chemical Educational Foundation® (CEF)

Arlington, VA

First You Be The Chemist (YBTC) activity kits are created

First Chemistry Spelling Bee is held in Fairfax County, VA

The YBTC Challenge is launched, involving three states and 125 students

Third Edition of the YBTC Activity Guides is published as a set of two classroom resource guides for educators

CEF pilots a new YBTC program— Essential Elements—a series of professional development workshops for K-8 teachers

Fourth Edition of the YBTC Activity Guides goes paperless! The materials can now be downloaded for free from the CEF website

The 10th annual National YBTC Challenge draws a crowd of 300 people to watch competitors from 30 states vie for the title of National Challenge Champion and a total of \$15,000 in scholarships. Nearly 25,000 students participated in the Challenge nationwide this year.



IN 2014...

24,212 students participated in the YBTC Challenge

26,610

26,610 students were reached through YBTC Essential Elements workshops that trained 490 educators.



163,610

163,610 students were reached by the YBTC Activity Guides



CEF IS GETTING
A NEW WEBSITE:
Coming March 2015,
www.chemed.org will
have a new look! Stay
tuned!

# A LOOK AHEAD

#### **2015 IMPORTANT DATES**

JANUARY 1-MARCH 28, 2015 Local You Be The Chemist Challenge® competitions, Nationwide

FEBRUARY 7, 2015 Charleston STEM Festival, Charleston, SC

MARCH 28, 2015 Atlanta Science Festival, Atlanta, GA

APRIL 25, 2015
State You Be The Chemist Challenge® competitions,
Nationwide

APRIL 29, 2015
CEF Board of Trustees Meeting, Arlington, VA

MAY 2, 2015
Philadelphia Science Festival Carnival, Philadelphia, PA

JUNE 22, 2015
National You Be The Chemist Challenge® competition, The Kimmel Center, Philadelphia, PA

JUNE 22, 2015

National You Be The Chemist Challenge® Celebration Dinner & Award Ceremony, The National Constitution Center, Philadelphia, PA

JUNE 23, 2015 CEF Board of Trustees Meeting, Philadelphia, PA

SEPTEMBER 20–22, 2015 Challenge Organizer Conference, Hotel Monaco, Alexandria, VA

SEPTEMBER 22–23, 2015

Essential Elements Certified Instructor Training Conference, Hotel Monaco, Alexandria, VA

NOVEMBER 12, 2015 CEF Board of Trustees Meeting, Hyatt Coconut Point, Bonita Springs, FL









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703.527.6223 comments@chemed.org



Chemical Educational Foundation and You Be The Chemist







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