

## Message from the Chair



Margaret Resce  
Milkint

Dear Friends of  
the Foundation,

Reflecting back on  
2020, I choose to  
focus on gratitude  
and silver linings  
--- it's in my DNA  
and "Courageous  
Positivity" is  
my personal  
mantra. Thanks  
to each of you, our

Foundation has pivoted seamlessly to serve  
our Mission with a bold spirit of innovation  
and "Can Do"! TAF is making an active  
difference and I am profoundly grateful and  
honored to navigate with each of you on this  
brave new journey.

Throughout the pages of this newsletter are  
highlights of how our leadership, staff and  
volunteers have embraced and conquered  
the digital landscape to innovate and make  
our programs available virtually to more  
students, parents and teachers across the  
country. Below are a few examples of how  
the Foundation is fulfilling our mission of  
enhancing math education through the  
talents and resources of actuaries.

- The latest Hardest Math Problem  
Student Contest (*shout-out to actuary  
Joshua Becker* for his terrific support in  
writing the problem) shows middle school  
students how to use data and write a  
mathematical argument.

- We are intentionally promoting diversity,  
equity and inclusion in all of our efforts  
and specifically encouraging students  
to enter the actuarial profession by  
awarding *87 Foundation scholarships*.
- Our Math Motivators program is now  
offering *virtual tutoring in over 30 sites  
with close to 80 in the works!*

The immense generosity of our individual  
and corporate donors makes our work  
possible and I am truly thankful for this  
needed support, especially this year! I also  
want to offer BRAVOs to each of our selfless  
Foundation volunteers who have been so  
dedicated with their time and commitment  
to making our programs available even  
in the remote learning environment. Our  
leadership and staff have been tireless  
in their dedication to creating more  
possibilities for more students throughout  
the year. I extend my heartfelt and deep  
gratitude to each of you.

I send my personal best wishes to all of you  
and your families to remain safe, strong and  
well in this joyous holiday season. Here's to a  
healthy 2021, filled with more learning, more  
kindness and more hope and even shinier  
silver linings for The Actuarial Foundation.

Cheers to you,

Margaret Resce Milkint

## Calendar of Events

February 10-11, 2021  
The Actuarial Foundation  
Board of Trustees Meeting

April 11-14, 2021  
Enrolled Actuaries Meeting

April 12-14, 2021  
SOA Life Insurance Conference

April 22-23, 2021  
Modeling the Future Challenge  
Symposium

May 23-26, 2021  
CAS Spring Meeting

## SUPPORTING U.S. ACTUARIAL ORGANIZATIONS



# Happy Holidays

from all of us at  
**The Actuarial Foundation!**



# Changing Lives with Math Education

## EDUCATION

### Expect the Unexpected with Math

During this time of remote learning, we have seen a **113% increase** in page views in March 2020 compared to March 2019 on our Math Workshop modules! The latest module was recently launched to Scholastic's database of over 400,000 middle school math teachers and students. If you know of parents or teachers in need of free math resources, you can send them here: [www.scholastic.com/mathworkshop/login/index.html](http://www.scholastic.com/mathworkshop/login/index.html)

### The Hardest Math Problem Student Contest

Writing in mathematics is complex. According to the National Council for Teachers of Mathematics, a peer-review activity helps students support a claim and communicate it clearly while keeping the audience in mind. Students participating in our Hardest Math Problem Student Contest are tasked with writing a math argument as a part of their contest submission and actuaries are the ones reading and ranking them. To help these students write proper math arguments, Scholastic and our volunteer actuaries developed a math game called *Puzzle it Out: Writing a Math Argument*. The storyline has Carlita, our former Hardest Math Problem character, going through the process of ordering ingredients for her signature turkey dinner. She needs to do some conversions to feed a large crowd, and has students assist her with creating a clear and concise math argument to send over to the supplier. Completing the *Puzzle it Out: Writing a Math Argument* exercise will help students as they prepare their Hardest Math Problem contest submission.

The 2020-2021 Hardest Math Problem Challenge 1 is now open and in it, students will be asked to use data to determine the percent decline, to the nearest whole number, of rusty patched bumble bees (*Bombus affinis*) from 20 years ago to today. Students who correctly answer Challenge 1 at or above their current grade level will receive an invitation to participate in Challenge 2. We are thankful to Joshua Becker, an actuary at New York Life, for providing us with this year's competition theme. If you have an idea for a math contest theme, look for a chance to submit your idea this summer.

[www.scholastic.com/hardestmathcontest/index.html](http://www.scholastic.com/hardestmathcontest/index.html)

CHALLENGE 1

SCHOLASTIC

QUESTION SHEET

### THE HARDEST MATH PROBLEM

#### GRADE 6

There's a new club at Monroe Middle School thanks to three persuasive students – Vishal, Maria, and Jade. When the principal read their proposal for EARTH Club, she smiled. "Environmentally Aware and Ready To Help! What a great title! Now, what activities do you have planned?"

"First, we'll study the declining population of bees," said Vishal.

"Bees are vital to our ecosystem," Maria explained. "Did you know that when they transfer pollen, they start the process of reproduction in about 80 percent of plants? That includes fruits, vegetables, flowers, and seeds."

"It also includes around 90 different types of food, like apples and pumpkins," added Jade.

"Wow," said the principal. "The EARTH Club is officially approved!"

#### Solve the Problem

Vishal loves to eat! He wants to know which foods are pollinated by bees. He found out that the **honeybee**, one of 20,000 different bee species, makes honey and provides most of the pollination for blueberries, broccoli, cherries, and many other foods. (Yum!) It provides 100% of the pollination for almonds. But, honeybees are dying from habitat loss, the varroa mite, pesticides, and climate change. Below are approximate rates of honeybee loss in the U.S. for nine consecutive years.

Year	1	2	3	4	5	6	7	8	9
Rate of Loss	36.2%	29%	46.2%	37.5%	40.9%	40%	32.6%	40.5%	40.1%

What survival rate in the 10th year would make the average rate of loss over the 10-year period equal to 38.0%?

Definition: Survival rate is the opposite of rate of loss.

From the Hardest Math Problem Student Contest

A sample exercise from the 2020-2021 Hardest Math Problem Student Contest.

### Modeling the Future Challenge

The **Modeling the Future Challenge (MTFC)** is a national competition giving high school students the opportunity to develop and present their own mathematical models



A Program of The Actuarial Foundation

### Modeling the Future Challenge

describing how a new technology or industry might change the future. For the 2020-2021 Challenge, the topic is an open theme, allowing students to pick a topic that is relevant and interesting to them. We provide them with some suggested data sources, but they are also encouraged to research on their own and analyze data just as actuaries do. Registrations recently closed and we have **193** teams registered and working on a scenario to qualify and submit a paper. This is our highest registration since the Challenge began!

This year we are thrilled to announce the development of our Actuarial Process Guide. With the help of our partner, the Institute of Competition Sciences, and the Modeling the Future Challenge Development Committee of actuaries, this five-step method was developed and can be used by students and teachers in high school and college. The Actuarial Process is designed to guide students through the stages of identifying a project topic and completing their research report for the MTFC like actuaries do for their companies and clients. To take a look at the Guide, go to: [www.mtfcchallenge.org/wp-content/uploads/2020/07/MTFC\\_Actuarial\\_Process\\_Guide\\_2020.pdf](http://www.mtfcchallenge.org/wp-content/uploads/2020/07/MTFC_Actuarial_Process_Guide_2020.pdf)

### Building Your Future Launch Proves Successful

Since its redesign, *Building Your Future* (BYF), the financial literacy curriculum resource that helps high school students grasp the essentials of personal finance, has had over 47,000 microsite visits and over 28,000 downloads. Our vendor for *Building Your Future*, YMI, has been measuring students' understanding of the financial literacy concepts by having them complete pre- and post- tests. The results of these pre- and post- tests show an average of 22.6% increase in understanding across all four of the *Building Your Future* booklets. [www.actuarialfoundation.org/building-your-future/](http://www.actuarialfoundation.org/building-your-future/)

## EDUCATION

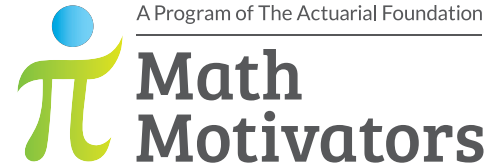
### An Update on Our Math Motivators Program

Well into the 2020-21 school year, we are still facing learning challenges caused by COVID-19. Many of us feel like this marathon will never end. Instead of dropping off kids at school and waving “goodbye,” most families around the country are hunkered down at home. Students and parents are forced to get acquainted with a jumble of internet learning technologies, troubleshooting virtual classrooms and Wi-Fi connections, and settling into their first-ever fall and foreseeable future with distance learning.

Despite these challenging times, our dedicated team of staff and volunteers have not let anything stand in the way of delivering free math tutoring to underserved communities. We have been busy at work creating new beginnings for Math Motivators students across the country.

Here are some examples:

- We have been working with nearly 80 sites to establish virtual tutoring programs this academic year
- As of October 30, 24 sites have kicked off their programs, 10 sites are scheduled to start in November, and another 10 sites are planning to start the program in winter or early spring



- We created five interactive tutor training webinars
- We welcomed two new Program Coordinators, Jerry Chung and Bryndís Arnarsdóttir

If you would like to learn more about our Math Motivators program, please reach out to our Math Motivators Program Manager, Karen Lindebrekke at:

[karen.lindebrekke@actfnd.org](mailto:karen.lindebrekke@actfnd.org)

### Positive Results from Students Receiving Math Motivators Tutoring

It is really exciting to see the positive impact the Math Motivators tutoring program is having on students from previous years. In 2018, UNUM Group provided a generous grant for the Math Motivators program. With UNUM’s financial and volunteer support, 24 ninth graders at Portland High School received free math tutoring in AY2018-19. Results

from an end-of-year survey of students in the program were very encouraging:

- 90% of students indicated that their grades improved
- 80% increased in their understanding of Algebra
- 80% increased in their confidence in math

- 70% increased in their enjoyment of math

We are so grateful to all of our Math Motivators supporters for all that they make possible.



## SCHOLARSHIP AND REIMBURSEMENT PROGRAMS

### An Extraordinary Year for Scholarships and Reimbursement Programs

The Foundation awarded **87** college students with **\$233,750** in scholarships for 2020.

Here is the distribution of students receiving each scholarship:

- 68 Actuarial Diversity Scholarships
- 5 *Actuary of Tomorrow*–Stuart A. Robertson Memorial Scholarships
- 4 Caribbean Actuarial Scholarships
- 10 Curtis E. Huntington Memorial Scholarships

Meet the 2020 Foundation scholarship recipients at: [www.actuarialfoundation.org/scholarships/](http://www.actuarialfoundation.org/scholarships/)

### Thank You, Volunteers

All of the education programs at the Foundation run smoothly thanks to the time and effort of our volunteers. We are grateful to all volunteers who have dedicated their time and made a commitment to the Foundation and to the students, teachers, and schools we serve.



### New Software Chosen to Manage Scholarships

As the reach of The Actuarial Foundation grows, we continue to look for technology that can match our needs. After an extensive review process, we have contracted with Submittable as our new scholarship management software platform. This platform is replacing Academic Works and will provide us with the ability to collect and review applicants and track them through their actuarial path with more robust reporting capabilities.



## FUNDRAISING

### Educate.Connect.Change. - An Update from our Campaign Co-Chairs

You may recall that the campaign was temporarily paused earlier this year due to COVID-19. This pandemic has dramatically changed the way we live, work and learn. No one and no business— including nonprofits— have been untouched. The academic disruption caused by the pandemic has been well-documented and there remains much uncertainty about how this disruption will impact students overall.

What has emerged for The Actuarial Foundation is a continuous need to be flexible, nimble, collaborative and forward-thinking.

- We pivoted our Math Motivators program to virtual tutoring to make it easier for students to learn and get the free support they need and we're rolling it out to schools across the nation.
- We worked with multiple vendors to ensure our free, online middle school math resources produced with Scholastic were readily available to teachers, students and parents in need.

- Our Modeling the Future Challenge Symposium will be held virtually again this year, and registrations are at the highest they have been since the Challenge began.
- We spent countless working hours on discussions about diversity and inclusion and how that will play a bigger role in our problems and Foundation going forward.
- See how the Foundation has made a difference by visiting:  
[www.actuarialfoundation.org/remote-learning/](http://www.actuarialfoundation.org/remote-learning/)

Our goal remains unchanged—to raise \$5 million to apply toward solving the persistent problem surrounding math education and financial literacy. Indeed, the need for these resources to ensure the Foundation's ability to proactively address whatever the future may bring has never been more evident. We are proud to re-affirm our commitment to reaching the \$5 million mark!

If you believe in making a difference, especially in these critical times for students, teachers, and educators, we urge you to pledge your support as we continue to



Toni and Doug French, Campaign Co-Chairs

shape the future of math education and equal opportunity for all students.

Thank you for your support as our Foundation continues to work on bridging the gap.



### The Foundation Reaches Guidestar's Highest Seal of Transparency

The Actuarial Foundation recently announced their achievement of the 2020 Platinum Seal of Transparency, the highest level of recognition offered by GuideStar, a service of Candid. By sharing metrics that highlight progress The Actuarial Foundation is making toward its mission, the Foundation is helping donors move beyond simplistic ways of nonprofit evaluation such as overhead ratios. "In accordance with our long-held organizational beliefs in transparency and accountability," said Jason Leppin, executive director, "we are excited to convey our organization's results in a user-friendly and highly visual manner. With a Platinum-level Profile, we can now easily share a wealth of up-to-date organizational metrics with our supporters as well as GuideStar's immense online audience, which includes donors, grant makers, our peers, and the media."

To reach the Platinum level, the Foundation added extensive information to its Nonprofit Profile on GuideStar including contact and organizational information; in-depth financial information; qualitative information about goals, strategies, and capabilities; and quantitative information about results and progress toward its mission. By taking the time to provide this information, the Foundation has demonstrated its commitment to transparency and to giving donors and funders meaningful data to evaluate our performance. Visit [guidestar.org](http://guidestar.org) and search for The Actuarial Foundation to learn more.



### Shop online at Amazon to benefit The Actuarial Foundation

If you are purchasing holiday gifts at amazon.com, please consider shopping at smile.amazon.com, which donates a portion of your purchases to the Foundation. Visit <https://smile.amazon.com/> and choose Actuarial Foundation from the dropdown menu. Thank you for your support!

### Help bring joy this season

Buy your gifts at [smile.amazon.com](http://smile.amazon.com)  
or with AmazonSmile ON in the app  
and Amazon donates

amazon smile





## Highlights from the 2020 Annual Meetings

The Foundation navigated the virtual meeting environment this year with a presence at the 2020 SOA, CCA, and CAS Annual Meetings. We successfully gave a sneak preview of our new *Educate.Connect.Change.* campaign video at each of the meetings. We also had virtual booths at the SOA and CCA meetings.

For the CAS Annual Meeting, we tried a different approach by hosting a virtual luncheon. Our program for the luncheon was entitled Empowering Our Youth With the Math Skills for Tomorrow. Executive Director, Jason Leppin and Program Managers Debbie McCormac and Karen Lindebrekke presented for the Foundation. The session provided an overview of the impact Foundation programs are making on students. Fueling the session was the combined team presentation as well as two new videos – one on virtual tutoring which our Math Motivators team recently completed and the new Actuarial Process video recently released by the Modeling the Future Challenge team. The Actuarial Process is a five-step framework, similar to the scientific method, that lays out the core structure of how to successfully identify, analyze, and manage risks.

While we missed visiting with everyone in person at our booths, we did hold drawings for both the SOA and CAS meetings. The award for both meetings was a \$500 tribute gift to the Foundation made on the winner's behalf by the Chair of our Board of Trustees, Margaret Resce Milkint. Congratulations to our drawing winners, Randy Lewis and Millie Delgado. Randy Lewis is a Math Motivators volunteer and asked us to use the funds for the Math Motivators program in Shelton, Washington. Millie Delgado is a 2019 recipient of the Elizabeth Mauro Reimbursement Program which supports those making a career change to the actuarial profession.

A very special thank-you to Margaret Resce Milkint whose incredible generosity made these tribute gifts possible.

## Foundation Trustees in the Spotlight

Congratulations are in order for several Foundation Trustees who have achieved some well-deserved recognition. Trustee Sharon Robinson was named one of Business Insurance's 2020 Women to Watch, a program which was started in 2006 to recognize women leaders doing outstanding work in risk management and commercial insurance. Foundation Board Chair, Margaret Resce Milkint, received the President's Award at the Society of Actuaries 2020 Virtual Annual Meeting. Trustee Tonya Manning shared her views on the transformation and future growth of the actuarial profession as part of the General Opening Session Panel. We are also excited for Emeritus Trustee Roy Goldman, who was instrumental as the founder of the Modeling the Future Challenge. Roy was sworn in as the 72<sup>nd</sup> President of the Society of Actuaries.



Become a Math  
**G.E.M.**  
GIVE EVERY MONTH



[www.actuarialfoundation.org/math-gems/](http://www.actuarialfoundation.org/math-gems/)

**The Actuarial Foundation**  
475 N. Martingale Rd #600  
Schaumburg, IL 60173-2226

**Phone:** 847-706-3535

**Web:** [www.actuarialfoundation.org](http://www.actuarialfoundation.org)

### STAFF

Jason Leppin, CFRE - Executive Director  
[jason.leppin@actfnd.org](mailto:jason.leppin@actfnd.org)

Laura Hogan - Database & Office Specialist  
[laura.hogan@actfnd.org](mailto:laura.hogan@actfnd.org)

Connor Jacobson - Regional Program Coordinator, Mid-Atlantic, Math Motivators  
[connor.jacobson@actfnd.org](mailto:connor.jacobson@actfnd.org)

Sandra Kay - Executive Assistant  
[sandra.kay@actfnd.org](mailto:sandra.kay@actfnd.org)

Karen Lindebrekke - Program Manager, Math Motivators  
[karen.lindebrekke@actfnd.org](mailto:karen.lindebrekke@actfnd.org)

Therese Marske - Regional Program Coordinator, Great Lakes, Math Motivators  
[therese.marske@actfnd.org](mailto:therese.marske@actfnd.org)

Debbie McCormac - Program Manager  
[debbie.mccormac@actfnd.org](mailto:debbie.mccormac@actfnd.org)

Holly Monahan - Marketing Manager  
[holly.monahan@actfnd.org](mailto:holly.monahan@actfnd.org)

Wendy Moylan - Foundation & Corporate Relations Specialist  
[wendy.moylan@actfnd.org](mailto:wendy.moylan@actfnd.org)

Korrina Rich - Program Specialist of Implementation, Math Motivators  
[korrina.rich@actfnd.org](mailto:korrina.rich@actfnd.org)

Raf Rokita - Marketing Specialist  
[raf.rokita@actfnd.org](mailto:raf.rokita@actfnd.org)

Nichole Semprit - Program Specialist  
[nichole.semprit@actfnd.org](mailto:nichole.semprit@actfnd.org)

Amanda Theriault - Regional Program Coordinator, Hartford, Math Motivators  
[amanda.theriault@actfnd.org](mailto:amanda.theriault@actfnd.org)

Valerie Thompson - Director of Development  
[valerie.thompson@actfnd.org](mailto:valerie.thompson@actfnd.org)

# Changing Lives with Math Education

Corporate partnerships help the Foundation develop math education and financial literacy resources and fund scholarships to change lives and promote lifelong math education. Thanks to all of the organizations below whose support makes our work possible.

Corporate Supporters 2019-2020

## VISIONARY – \$500,000+

Milliman

## INNOVATOR – \$250,000+

New York Life Foundation

## DISCOVERER – \$100,000+

Conrad Siegel Actuaries  
Oliver Wyman Actuarial Consulting, Inc.  
Pacific Life Foundation

## PIONEER – \$50,000+

Society of Actuaries

## PATHFINDER – \$25,000+

Ernst & Young LLP  
MassMutual Foundation  
Odyssey Group Foundation  
RGA Reinsurance Company

## PACESETTER \$10,000+

Allstate  
American Academy of Actuaries  
Assurant Health  
CIGNA  
Conference of Consulting Actuaries  
The Jacobson Group  
MetLife Foundation  
Nationwide Financial  
Northwestern Mutual

Optum  
Principal Financial Group  
PricewaterhouseCoopers LLP  
The Terry Group  
UnitedHealth Group  
UNUM Group

## BUILDER - \$5,000+

Aegon Transamerica Foundation  
AFLAC Inc.  
AIG American General  
Ameritas Charitable Foundation  
Anthem  
The Bannow-Larson Foundation  
Deloitte Consulting  
FIS Global  
Genworth Financial  
NCCI Holdings, Inc. (National Council on Compensation Insurance)  
Penn Mutual Life Insurance Company  
Pinnacle Actuarial Resources Inc  
Trustmark Foundation  
Zenith Insurance Company

## AMBASSADOR \$2,500+

Buck  
CDBykerk Consulting, LLC  
GE Capital  
Gen Re

Global Atlantic Financial Group  
Hannover Life Reassurance Company of America  
John Hancock Financial Services  
Milliman Hartford Health Practice  
R.A.D. Search LLC  
Swiss Re  
Verisk Analytics  
Wakely Consulting Group, LLC  
Willis Towers Watson  
Zurich North America

## ADVOCATE \$1,000+

American Agricultural Insurance Co  
Ezra Penland Actuarial Recruitment, Inc.  
Guardian Life Insurance Co  
Highmark Actuarial Department  
Legacy Foundation of Hartford  
OneBeacon Insurance  
Risk & Regulatory Consulting, Inc.

## PLANNER \$500+

Applied Stochastic, LLC  
Abacus Actuarial Consulting, LLC  
Independent Actuaries, Inc.

## The Actuarial Foundation

### 2020 BOARD OF TRUSTEES

Margaret Resce Milkint, <i>Chair</i>	Nadine Orloff
Michael Wacek, <i>Chair-elect</i>	Sharon Robinson
Andy Ferris, <i>Secretary/Treasurer</i>	Patricia Rotello
Sandra Z. Brown	Eric C. Sherman
Robert F. Conger	Clark Slipher
Kelly Cusick	Michael S. Smith
Richard de Haan	Joanne Spalla
Brian Donlan	Dewayne Ullsperger
Emily Gingrich	Chad Wischmeyer
Sarah Hamid	Susan Witcraft
Olga T. Jacobs	Benjamin Ybarra
Barry Jacobson	
Jeremy Engdahl-Johnson	
Jeffrey Johnson	
Ted A. Lyle	
Tonya Manning	
Roosevelt Mosley	
Kathy Odomorik	

### EMERITUS TRUSTEES

Robert A. Anker	Jacques Goulet, Jr.	Charles E. Rohm
Ronald Bachman	Patricia L. Guinn	Walter S. Rugland
Craig M. Baldwin	Sam Gutterman	David Sandberg
Edward W. Bales	Maureen Hager	Steven Schreiber
Albert J. Beer	Curtis D. Hamilton	John J. Schubert
Paul Braithwaite	Jane L. Hamrick	Carol R. Sears
Cecil D. Bykerk	David G. Hartman	Robert D. Shapiro
Suzanne Chapa	Gary R. Josephson	Frederick J. Sievert
Pamela Cone	Joseph W. Kelly	Robert W. Stein
Thomas R. Corcoran	Joseph J. Leube	Thomas C. Sutton
Michael J. Corey	Warren Luckner	Dorn Swerdlin
Kevin A. Cormier	W. James MacGinnitie	Patricia A. Teufel
A. David Cummings	Charles Marino	Kevin Thompson
Robert V. Deutsch	S. Michael McLaughlin	James A. Tilley
John W. Ehrhardt	Cynthia Miller	Mavis A. Walters
David J. Fishbaum	Joseph A. Nichols	A. Greig Woodring
Douglas A. French	Kathy Olcese	Dale H. Yamamoto
Michael Fusco	Arthur Panighetti	Amanda E. Young
Helen Galt	Anna Rappaport	
Roy Goldman	Rodney R. Rohda	