





#### 1880

Year ASME was Established

#### 90,000+

ASME Members, including Students and Early Career Engineers

23,000+ ASME Student Members

15.000+ ASME Early Career Engineer Members, including Graduate Students

135+ **Countries with ASME Members** 

3,700+ **Active Volunteer Leaders** 

560+ ASME Standards

#### 100+

Countries using the ASME Boiler & Pressure Vessel Code

#### **ASME Mission**

To advance engineering for the benefit of humanity

#### **ASME Vision**

To be the premier resource for the engineering community globally

#### **ASME Values**

In performing its mission, ASME adheres to these core values:

- Embrace integrity and ethical conduct
- Embrace diversity and respect the dignity and culture of all people
- Nurture and treasure the environment and our natural and man-made resources
- Facilitate the development, dissemination, and application of engineering knowledge
- Promote the benefits of continuing education and of engineering education
- Respect and document engineering history while continually embracing change
- Promote the technical and societal contribution of engineers

#### **Our Credo**

Setting the Standard...

- In Engineering Excellence
- In Knowledge, Community, and Advocacy
- For the Benefit of Humanity

## **Table of Contents**

ASME Annual Report	pg. 4
ASME Foundation	pg. 12
Financials	pg. 26







THOMAS COSTABILE, P.E. EXECUTIVE DIRECTOR AND CEO

BRYAN A. ERLER, P.E. PRESIDENT (2020-2021)

## Letter from the President and Executive Director/CEO

Despite the ever-changing landscape brought about by the COVID-19 pandemic, fiscal year 2021 was a year of significant achievements for ASME. The perseverance and dedication of ASME volunteers, partners, and staff enabled us to keep engineering at the forefront of innovation while staying focused on our mission to advance engineering for the benefit of humanity.

We are grateful for the steady guidance provided by the ASME Board of Governors and the leadership of the Society, as they made decisions to keep our staff, members, and the engineering community at-large healthy and safe. ASME staff successfully operated in a work-from-home protocol, and all ASME meetings and events were conducted virtually. In doing so, we kept the health and well-being of everyone our priority.

These decisions notwithstanding, ASME operations and programs continued to thrive and emerged stronger than ever.

ASME formed the International Society of Interdisciplinary Engineers, LLC (ISIE), a new for-profit subsidiary to house business ventures that will bring new and innovative products, services, and technologies to the engineering community. In November 2020, TechStreet joined ISIE as the first business venture acquired under this new structure. The combined expertise of ASME and TechStreet—along with their proprietary technologies and operational knowledge—will create unique value for the global standards community.

We are very pleased to report that, even in a year marred by economic downturns, the ASME Foundation made significant headway in its donor base and fundraising goals for ASME's Campaign for Next Generation Engineers. With an ambitious five-year goal to raise \$50 million in support of Education that Inspires, Careers that Matter, and Ideas that Innovate, we are grateful for the nearly 6,000 individuals, corporations, and foundations who generously supported ASME's Campaign for Next Generation Engineers. To learn more about the ASME Foundation or to donate to ASME's Campaign for Next Generation Engineers, please visit www.asmefoundation.org,

Perhaps one of the more significant undertakings in FY21 was ASME's deep commitment to diversity, equity, and inclusion (DEI) as we continue to celebrate the range of voices, perspectives, backgrounds, and experiences in our Society and the engineering community. It is our conscious intention to promote DEI in our programs, events, and communications, and to create safe spaces for groups and individuals to share concerns and discuss solutions. In pursuing this ongoing work, ASME adheres to three guiding principles: we are a global, diverse, and inclusive Society; we are a Society that adheres to the highest ethical standards; and we are a Society focused on the next generation.

To this end, we are proud to have launched our new DEI Toolkit, a helpful resource for advancing and promoting DEI initiatives throughout the Society. This year we also introduced our DEI Podcast to engage in meaningful conversations with people of diverse backgrounds and experiences from all over the world. Special events like our first Increasing Women in Mechanical Engineering Conference, held in January, gave us an opportunity to discuss engineering education practices and culture as key components in increasing the number of women in the mechanical engineering profession. We also recently held our Women in Standards & Certification event to celebrate the valued participation and contributions of women who serve on ASME's various Standards & Certification committees while providing visibility, networking, and knowledge transfer opportunities for women in attendance.

On behalf of the Board of Governors and the leadership team, we thank you for your ongoing dedication and support of ASME and its mission. It is most gratifying to know that engineers continue to have a significant positive impact on our lives, our communities, and our world—even during the most challenging of times.

Our best wishes for a safe and healthy year,

Thomas Costabile, P.E. Executive Director and CEO

Thomas Costat

Bryan A. Erler, P.E. President (2020-2021)

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asme.org 5

## FY 2021 **Board of Governors**



Bryan A. Erler, P.E. ASME President (2020–2021) President of Erler Engineering Ltd.



Mahantesh Hiremath, Ph.D., P.E. ASME President-Elect (2021-2022) Vice President, Mechanical and Aerospace Engineering SC Solutions



**Richard T. Laudenat, P.E.** ASME Immediate Past President (2019–2020) Former Plant Manager GDF Suez, now ENGIE (Retired)



Thomas Costabile, P.E. Executive Director/CEO ASME

# **Society Officers**



Thomas Costabile, P.E. Executive Director/CEO ASME



William Garofalo Chief Financial Officer ASME





Todd R. Allen President and Founder Allen Research Tech-Services, Inc.



Andrew S. Bicos, Ph.D. Former Director of Systems Engineering & Analysis Technology The Boeing Company (Retired)



Joe R. Fowler, Ph.D., P.E. Former President and Co-Founder Stress Engineering Services, Inc. (Retired)



Laura E. Hitchcock Consultant Former Senior Standards Specialist and Corporate Project Manager The Boeing Company (Retired)



Karen J. Ohland Associate Director for Finance and Operations Princeton University Art Museum Princeton University (Retired)



Kalan R. Guiley ASME Public Affairs & Outreach Senior Manager, Global System Safety The Boeing Company



**Senior Vice Presidents** 

George Papadopoulos, Ph.D. ASME Technical Events & Content Principal/Director of Sensor Systems Innoveering, LLC





Thomas R. Kurfess,

Ph.D., P.E.

Chief Manufacturing Officer

Oak Ridge National Laboratory

Paul D. Stevenson Executive Vice President/Partner McCormick Stevenson Corporation

6 asme.org



Services at Applied Research Laboratory Penn State University (Retired)



Office of Advanced Manufacturing National Institute of Standards and Technology





Callie L. Tourigny ASME Student & Early Career Development Development Director LifeAMP. LLC





Robert N. Pangborn, Ph.D. ASME Secretary/Treasurer Former Vice President and Dean for Undergraduate Education Penn State University (Retired)



John Delli Venneri Assistant Secretary/ General Counsel ASME



Thomas P. Pastor, P.E. ASME Standards & Certification Vice President Hartford Steam Boiler



Michael S. Roy, P.E. **ASME Member** Development & Engagement Vice President, Engineering Hartford Steam Boiler

# ASME STRATEGY

# MISSION

Advance engineering for the benefit of humanity

# VISION

The premier resource for the engineering community globally Sustainable Solutions Clean Energy Efficient Housing Clean Water

# WE WILL SERVE THOSE ASPIRATIONS THROUGH THESE STRATEGIC TECHNOLOGIES GLOBALLY:



# **ASPIRATIONS** are to address these global challenges:

Efficient Transportation Public Safety Public Healthcare

#### CLEAN ENERGY Solar | Wind | Biomass Storage | Nuclear

**ROBOTICS** Industrial Automation | UAVs Field | Mobile | Autonomous

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# YEAR IN REVIEW

In November 2020, Clarivate Plc (NYSE: CCC), a global leader in providing trusted information and insights to accelerate the pace of innovation, and ASME announced that the International Society of Interdisciplinary Engineers (ISIE) LLC, a for-profit subsidiary of ASME, has acquired Techstreet, a new ASME commercial arm for innovative products & services. The combined expertise of these two organizations along with their proprietary technologies and operational knowledge – creates unique value for the global standards community.

ASME held its first Increasing Women in Mechanical Engineering Conference to examine, challenge, and discuss engineering education practices and culture as key elements to increasing the number of women in mechanical engineering. The iWME conference explored topics on how engineering has changed for women, diversity in engineering in the next decade. and ways to increase diversity and competitiveness in the engineering workforce. Dr. Aprille Ericsson, aerospace engineer at NASA's Goddard Space Center, delivered the keynote to address the challenges and opportunities for woman in mechanical engineering.

# Techstreet An ASME Company

In February 2020, ASME Executive Director/CEO Tom Costabile; Chief Strategy Officer Michael Johnson: and Director of ASME India Madhukar Sharma visited the Petroleum and Natural Gas Regulatory Board (PNGRB) headquarters in New Delhi, India. They met with the PNGRB chairman, D.K. Sarraf, to discuss ASME's presence in India and opportunities to bolster the expanding partnership between the two organizations. In a step that enhances a meaningful partnership and further collaboration, ASME signed a memorandum of understanding (MoU) with the PNGRB of India on August 17, 2020.

ASME Government Relations convened a new public policy program, ASME Policy Impact, from May 24 to 26, 2021. Available for free to all ASME members, the virtual event included keynotes, briefings, and discussion panels on the science and engineering issues of the day, and an exciting new opportunity for ASME members to meet virtually with their U.S. congressional delegation members in Congress. Highlights of the event included bipartisan

perspectives from Representatives Chrissy Houlahan (D-PA) and Brian Fitzpatrick (R-PA), and a keynote address from Secretary of Energy

Jennifer Granholm, who emphasized the critical role of the engineering community in researching, designing, and deploying innovative technologies to lead a global clean

energy technology transi

Vapor-Compression Cycle for Refrigeration as its 274th Historic Mechanical Engineering Landmark. Generally regarded as one of the most significant engineering achievements, the Vapor-Compression cycle achieved wide use in the preservation of food and in cooling and heating of living spaces, among other important applications. Created by American inventor Oliver Evans in 1805, the closed

ASME recognized the Perkins

vapor-compression cycle for cooling described, but never constructed a working device. Thirty years later, Jacob Perkins, an

associate of Evans, filed a patent in England for a continuous vapor-compression machine that could cool water and solidify it into ice continuously. This closed-cycle device became the first working mechanism to use a system of vapor-compression for refrigeration.

continued to bring volunteer engineers to K-12 classrooms. The "DropMEIn!" program enabled students to meet up with professional engineers virtually to explore the limitless possibilities of an engineering career. Dr. Jim Kaculi. vice president of engineering for Dril-Quip, Inc., a supporter of the program said, "Having our engineers so engaged with students in an interactive classroom setting, and supporting STEM efforts, will help the development of young, innovative, and inspiring minds. Our goal is to ensure support for the next generation of engineers needed to empower our world."

Even amidst COVID, the ASME Foundation



Mindful of the Society's responsibility to support the needs of all its constituents. ASME launched the Diversity, Equity, and Inclusion Toolkit, a collection of resources to enhance DEI and to encourage, support, and celebrate the diverse voices of our employees, volunteers, customers, and communities. ASME seeks to ensure that all members feel welcomed and included in the ASME community, and aims to provide a culture of respect and courtesy for everyone.



ASME

ASME held its first fully-virtual Honors and Awards Event in conjunction with the 2020 ASME International Congress and Exposition in November 2020. This Telly Award-winning program showcased the achievements of nine outstanding engineers and their incredible contributions to the engineering profession. Honorees included ASME Medalist

Dr. Subra Suresh and Dr. James J. Truchard recipient of the Richard J. Goldstein Energy Lecture Award . The event was hosted by seven-time Emmy Award winning sports commentator and journalist, Roy Firestone (photo).

#### CHARLES O. VELZY

Charles O. Velzy, who served as the 108th president of ASME (1989–1990), died on December 11, 2020 at the age of 90. He began his illustrious career in 1957 at the engineering services company Nussbaumer, Clarke & Velzy as Senior Design Engineer. Later, he became a private consultant and president of Charles O. Velzy, P.E. in the field of waste treatment and disposal. In 2007, Velzy received the Distinguished Service Award from the ASME Materials & Energy Recovery Division. He served in leadership for the Society's Solid Waste Processing Division and Research Committee on Industrial and Municipal Waste. In 1976, he was elected a Fellow of ASME and, in 2005, was chosen as an Honorary Member of the Society.

#### REGINALD L VACHON

Reginald I. Vachon, ASME Past President (2003-2004), former member of the Board of Governors, and an Honorary Member of the Society, died on December 24, 2020 in Atlanta, Georgia. He was 83 years old. Dr. Vachon, an ASME Fellow, was an active, dedicated, and beloved member of the Society for more than half a century, having served in leadership roles on numerous councils and committees. He was a recipient of the ASME Dedicated Service Award, and in 2019 was bestowed the ASME Medal, the Society's highest award for eminently distinguished engineering achievement. His career as an engineer, executive, and lawyer spanning more than six decades exemplified his passion and enthusiasm for the engineering profession and for his friends and colleagues at ASME.

#### **ASME HONORS THEIR** MEMORY AND LEGACY



#### THOMAS M BARLOW

Thomas M. Barlow, ASME Past President (2008–2009), former member of the Board of Governors, and a member of the ASME Auxiliary, died on October 4, 2020 in his hometown of Lincoln, California. He was 85 years old. An ASME Fellow, Barlow was a strong supporter and leader in student outreach, membership development, technology, and engineering diversity. He served as a judge in student paper competitions and played a key role in developing ASME's Human Powered Vehicle Challenge for university students, now a featured event at ASME's Engineering Festival (E-Fest). Barlow was also a recipient of the ASME Dedicated Service Award.

asme.org 10

Mahantesh Hiremath, Ph.D., P.E., a native of Pune, India, was announced as the 140th president of ASME at the Society's annual meeting held virtually on June 21, 2021. Dr. Hiremath, an ASME Fellow, has been an active member of ASME since 1997. He has served as a member of the ASME Board of Governors from 2015 to 2019. With a distinguished career spanning more than 30 years, he is one of only a few engineers in the world to have designed and engineered systems in four different environments deep underground, off-shore, on-ground, and in space. He currently serves as vice president at SC Solutions in Sunnyvale, Calif. Dr. Hiremath becomes the first person of Indian and Asian descent to become president of ASME. He will serve the 2021 to 2022 presidential term.





ASME welcomed 50 new Fellows to the Engineering for Change (E4C) 2021 Fellowship. With support from the ASME Foundation and generous donors, including the Autodesk Foundation, this year's cohort doubled from 25 to 50, with members hailing from 24 countries - ranging from the U.S. and Canada to Egypt, Rwanda, Germany and Bangladesh. These E4C Fellows develop leadership skills to reach their fullest potential and deliver solutions that achieve the United Nations Sustainable Development Goals. E4C Fellows deepen their understanding of engineering for global development through targeted research, analysis, and engagement with the E4C community of experts.

# FOUNDATION

The ASME Foundation garners support for an array of philanthropic initiatives with one overarching goal: empowering next generation engineers.

These programs seek to advance the values of Equity in Engineering increasing access to technical careers for those who are underrepresented in the profession—and Equity in Engineering Solutions, making the innovations that improve quality of life available to all, especially those in underserved global communities.

This is the work of the ASME Foundation. What makes it possible are ASME's unparalleled engineering expertise, vast global network, impactful philanthropic programs...and YOU.

Carlos Anton

## **Board of Directors**



Frank C. Adamek, P.E. Chair GE Oil & Gas (retired)



Rudolf E. Landwaard, P.E. Consolidated Edison of NY (retired)



Robert T. Simmons, P.E. Princeton Plasma Physics Laboratory (retired)



Thomas Costabile, P.E. ASME Executive Director/CEO

## **Philanthropy Committee**



Keith Roe, P.E. Chair Burns & Roe Enterprises (retired)



Terry E. Shoup, Ph.D., P.E. Vice Chair Santa Clara University





Kathleen M. Lobb **ASME** Foundation Executive Director ASME Managing Director, Philanthropy



**Thomas J. Meehan** ASME Foundation Treasurer

## **Campaign for Next Generation Engineers Cabinet**

Keith Roe, P.E. Chair, ASME Philanthropy Committee & Campaign Cabinet Chairman & CEO, Burns & Roe Enterprises (retired)

Kenneth R. Balkey, P.E. Member, ASME Philanthropy Committee Senior Executive, Westinghouse (retired)

Michelle Blaise SVP, ComEd, an Exelon Company

Gwendolyn Boyd, Ph.D. Former President, Alabama State University Johns Hopkins University, Applied Physics Lab (retired)

Carol Dahl, Ph.D. Executive Director, The Lemelson Foundation

Bob Hauck, P.E. Healthcare Chief Mechanical Engineer, GE (retired)

William Magwood, IV Former Commissioner, United States Nuclear Regulatory Commission

Chandrakant Patel, P.E. Chief Engineer and Senior Fellow, HP

Thomas D. Pestorius President & CEO, H&P Inc. (retired) Member, ASME Philanthropy Committee

**Gwynne Shotwell** President, SpaceX

Terry E. Shoup, Ph.D., P.E. Professor Emeritus of Mechanical Engineering, Santa Clara University Member, ASME Philanthropy Committee

Jean Zu, Ph.D. Dean of the Schaefer School of Engineering and Science Stevens Institute of Technology

## ASME **Foundation Staff**

**Stephanie Viola** Director, Corporate and Foundation Relations

**Keith Miles** Director, Major Gifts

**Allysa Oliver** Corporate and Foundation **Relations Specialist** 

Jarrett Reich **Communications Specialist** 

John Dys Accounting Manager

**Prathamesh Jadhav Clerical** Assistant



Mahantesh S. Hiremath, Ph.D., P.E. SC Solutions



Kathleen M. Lobb ASME Foundation Executive Director ASME Managing Director, Philanthropy

Lester Su, Ph.D. Consulting Associate Professor of Mechanical Engineering, Stanford University





Thomas D. Pestorius

H&P, Inc. (retired)

**Anand Sethupathy** Managing Director, ASME Programs





Jennifer R. Jewers Bowlin, P.E. Henderson Engineers



Thomas Costabile, P.E. ASME Executive Director/CEO



Rudolf E. Landwaard, P.E. Consolidated Edison of NY (retired)



Laura E. Hitchcock Consultant Former Senior Standards Specialist and Corporate Project Manager The Boeing Company (Retired)



Justin R. Young Denmar Technical Services, Inc.



**Gretchen Crutchfield** Development Specialist ASME Philanthropy



# FY2021 HIGHLIGHTS

In a year marked by a global pandemic, economic disruption, and growing awareness of social inequities, ASME's Campaign for Next Generation Engineers expanded its donor base and made significant progress toward its fundraising goals.

Thanks to the support of nearly 6,000 individuals, corporations, and foundations who stepped up to support ASME's philanthropic programs during fiscal year 2021, the Foundation is pleased to report these highlights:

## **Education that Inspires**

- Created an alliance with Discovery Education (DE) to deliver engineering-related STEM curriculum to up to 750,000 K-12 students annually.
- Joined Boeing, Microsoft, Chevron, and P&G as the engineering content anchor in the STEM Careers Coalition<sup>™</sup>.
- Nearly doubled the number of K-12 students introduced to the E in STEM—from 91,000 students in FY20 to 165.000+ in FY21.
- Launched DropMEIn!, where ASME volunteer engineers shared the wonders of engineering with approximately 500 K-12 STEM students in FY21.
- Increased the value of ASME Foundation Scholarships by 19% over the prior year and increased our Diversity Ratio to 50%.
- Pivoted to 100% digital E-Fest experiences, reaching over 3,000 students from 40+ countries, and added a pilot high school track to E-Fest Digital 2021.

## **Careers that Matter**

- Thanks to a generous donation from the Autodesk Foundation, we doubled the number of Engineering for Change (E4C) Fellowships from 25 to 50.
- Initiated development of the Career Engagement Center, providing a digital platform for aspiring and early-career engineers to recognize and realize their full potential.
- Conceived the Community College Engineering Pathways initiative: ASME's multichannel program to create new two-year and non-traditional pathways leading to skilled technical roles.

#### Ideas that Innovate

- With support from Siemens USA, launched the INNOVATE FOR IMPACT: Siemens Design Challenge to cultivate solutions to two of the UN Sustainable Development Goals.
- With support from The Lemelson Foundation, pivoted the ASME ISHOW to 100% digital and selected the 2021 cohort of nine social ventures solving critical quality-of-life challenges from over 300+ entrants across the three regional ISHOWs.

#### **Diversity, Equity, and Inclusion**

- Held our first Increasing Women in Mechanical Engineering conference, attracting nearly 500 participants.
- Awarded 152\* scholarships, thanks to the generosity of many donors, including new corporate support from Ansys, Inc. Nearly half went to women and those who are underrepresented in the engineering profession (\*includes ASME Foundation, Auxiliary, and Division awards).
- Awarded half of all E4C Research Fellowships to women.
- Presented the first annual Lakshmi Singh Early Career Leadership Award recognizing an early-career woman engineer who has demonstrated leadership in, commitment to, and continued service with ASME.



In addition to sustaining existing programs, the ASME Foundation laid the groundwork for four new initiatives that will launch in fiscal year 2022.

#### **Community College Engineering Pathways**

In alignment with its goal of empowering and growing a more diverse, equitable, and inclusive technical workforce, ASME launched Community College Engineering Pathways (CCEP), a pilot program with at least six community colleges and three Historically Black Colleges and Universities (HBCU). Research indicates that 3.4 million technical positions will be open in STEM-related fields in the U.S. in the next couple years, and ASME's CCEP initiative is designed to create alternative pathways to rewarding technical careers for those with relevant two-year degrees, as well as other certifications.

## Career Engagement Center (CEC)

A digital platform where engineering students and early-career engineers and other technical professionals can connect to training opportunities, mentors, internships, employment, and each other. The CEC will enable users to model and simulate alternative career paths and understand the certifications and experience needed to pursue them.

#### **ISHOW** Idea Lab

With ASME's successful ISHOW hardware accelerator as the model, the Idea Lab will support social impact entrepreneurs earlier in the product development cycle, providing engineering expertise, business guidance, and seed capital to advance innovations from concept to prototype. Structured as a competition, winning prototypes will be invited to enter ISHOW for help with scaling to market-ready products.

#### **Engineering Dreams/DropMEIn!**

In collaboration with Discovery Education, ASME is the engineering content anchor for online curriculum resources aimed at K-12 students. Discovery's ED platform reaches more than 750,000 students, most in Title I schools, with engaging content that emphasizes the E in STEM. DropMEIn! invites ASME members to visit K-12 classrooms, both virtually and in person, to share their experiences as professional engineers and ignite a passion for problem-solving.

# **IMPACT STORIES**



Journey Washingtonhigh

#### Journey Washingtonhigh

For Ansys Inc. Scholarship recipient Journey Washingtonhigh, having the ability to create something has always been front and center. From a childhood interest in the arts and music, Journey has always had a passion to create. So it's no surprise that she took an immediate liking to engineering. As she explains, "I've been able to participate in research and group projects that have further evolved my interest in engineering and product design."

As a student at Stanford University, Journey is staying true to form, pursing a well-rounded education with ASME's help. "This scholarship is helping me pursue mechanical engineering by helping me participate in research opportunities, different extracurricular activities, and organizations that include my interests in engineering," Journey said.

For Journey, a career in engineering offers the opportunity to continue to be a creator. "This scholarship enables me to pursue what I've been enjoying my whole life, being able to create something in my mind and display that to other people." As she continues her education, the ASME Foundation is proud to help provide her with the means to pursue her ambitions.





Isha Tyle

## Isha Tvle

Isha Tyle can tell you when the seed was planted for her engineering career: it all started with a fruit battery. Taking part in project-based engineering programs starting in middle school, Isha was able to work with, and learn from, engineering mentors to complete, as she puts it, "all these cool, really hands on projects which I wasn't able to experience in school." Her passion continued through high school and into college, as she began her pursuit of a mechanical engineering degree at the University of Illinois.

With support from ASME, and as the recipient of the 2021-2022 Kenneth Andrew Roe Scholarship, Isha was able to work toward her goal of pursuing an engineering education more easily, especially as financial hardships threatened to stand in her way. "It has allowed me to become more financially independent in regard to my college tuition and really support myself through difficult times when my father lost his job just as I was beginning college," she recalls.

As Isha looks to her future, she is reminded of what awakened her interest in mechanical engineering—her own irrepressible curiosity and the example set by those who preceded her. She hopes to serve as a similar example for future engineers by working with young girls, showing them what is possible, and demonstrating by her accomplishments a path for success.

During FY21, the ASME Foundation added content to its website, www.asmefoundation.org, called "By the Numbers", which presents statistical information describing the impact of ASME's philanthropic programs. Initially, six program areas are covered, with additional "impact dashboards" to be added over time.

Each dashboard enables a user to discover successive layers of information. For example, starting with total numbers of K-12 students reached by ASME's STEM curriculum, then drilling down to show reach of the program by state and at the county level. The percentage of Title I schools, serving low-income families, is also shown. Similar statistics are presented for each of the six currently covered program areas.

The Foundation invites all visitors to the site to learn about the impact of ASME programs, both through the stories of beneficiaries and by statistical analysis. This information is important when evaluating ASME Foundation programs in the context of making charitable investments.









Engineering Accreditation Commission

# Social Return on Investment



# VOLUNTEER/ DONOR SPOTLIGHT

Volunteer Spotlight: Ken Balkey

It's not easy to fit Ken Balkey in a box. To spotlight his work as an ASME volunteer risks ignoring the generosity he and his wife, Ruth Anne, demonstrated when they endowed an ASME Foundation Scholarship. To talk about his work as a consulting engineer at Westinghouse Electric Company omits mention of his role on the adjunct faculty of the University of Pittsburgh's prestigious Swanson School of Engineering.

But the focus of this article is volunteering, and in that regard ASME Life Fellow Kenneth R. Balkey, P.E. truly sets the standard—and then some. Perhaps most notable among Ken's volunteer experience is his service as past senior vice president, ASME Standards & Certification. He spent many years doing research to support the Boiler and Pressure Vessel Code for nuclear power plant applications and served on and chaired the ASME Council on Standards and Certification. Editorial space does not allow a full listing of Ken's contributions of time and talent to ASME.

**Donors/Partners/Collaborators** 













AUTODESK



M°CORMICK

STEVENSON





Ken and Ruth Anne Balkey

"... I started calling some close ASME

an ASME scholarship." Ken Balkey

colleagues and friends to see if they would

like to join Ruth Anne and me in endowing

As a member of the ASME Philanthropy Committee, Ken

months, I started calling some close ASME colleagues and

friends to see if they would like to join Ruth Anne and me

in endowing an ASME scholarship," Ken notes. "As a result

of this guiet outreach, Gerry Eisenberg, a 49-year veteran

and Engineering Sector, and Dr. Sid Bernsen, a longtime

It's a little-known fact that this former track star, who as

a high school senior finished more than respectably in the

1968 Boston Marathon, has logged over 78,000 miles in

he's logged as an ASME volunteer. And judging by his

current pace of service to this community, he's nowhere

SIEMENS

running shoes, a record outdone only by the figurative miles

of the ASME staff and leader in the ASME Standards

colleague of the late Mary Drouin in the field of risk

assessment standards, both have agreed to endow

ASME scholarships."

near the finish line.

has demonstrated a prodigious aptitude for fundraising,

particularly in support of scholarships. "Over the past



#### Corporate Donor Spotlight: ComEd

ComEd, a unit of Chicago-based Exelon Corporation, provides electricity to more than 4 million customers across northern Illinois. The company is also a valued supporter of ASME, both as a member of the ASME Industry Advisory Board and as a donor to the ASME Foundation.

"By developing and supporting STEM-focused programming for students, we're making them aware of the fastest-growing career field as they consider their next steps after high school." Michelle Blaise

Michelle Blaise, ComEd's senior vice president of technical services, is also a member of the ASME Foundation's "campaign cabinet," the advisory group that provides strategic leadership for ASME's five-year, \$50 million fundraising effort, the Campaign for Next Generation Engineers. As part of ComEd's collaboration with ASME, company engineers participate in our DropMEIn! program, visiting local K-12 classrooms, either virtually or in person, to share their experience and inspire next generation engineers.

"As a major Illinois company and employer, ComEd recognizes its responsibility to be a good community partner and help create a workforce that reflects the communities we serve," Blaise said. "By developing and supporting STEM-focused programming for students, we're making them aware of the fastest-growing career field as they consider their next steps after high school. Programs like ASME's DropMEIn! ensure we cultivate the talents of the next generation of engineers and, more importantly, capture their new perspectives."

ComEd's extensive charitable investments focus on the environment, arts and culture, public safety initiatives, neighborhood development programs, and education, including ASME's K-12 education work which, this year, will introduce hundreds of thousands of students—many from Title I schools—to the wonders of engineering and the limitless possibilities of an engineering career.

> "Through this scholarship, I hope to support students who show promise, attract young talent to the profession, and encourage enrollment and active participation in standards development." Gerry Eisenberg

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#### Individual Donor Snapshot: Gerry Eisenberg

ASME succeeds in part on the strength of its diverse and talented staff, but even among such a stellar group there are individuals whose dedication and commitment are worthy of special recognition. There is no better example of this generosity of spirit than Gerry Eisenberg.

Gerry Eisenberg has served ASME for nearly half a century and is currently Managing Director of the Standards and Engineering sector. Inspired by the commitment of his friend and longtime ASME standards and certifications volunteer Ken Balkey, Gerry stepped up with a significant gift to endow the ASME Gerald M. Eisenberg Family Scholarship Fund.

"I received high-quality mentoring from world-class experts on the value of standards," says Gerry. "My intent is to pay it forward to the next generation and contribute to the deeper understanding of the value of engineering standards. Through this scholarship, I hope to support students who show promise, attract young talent to the profession, and encourage enrollment and active participation in standards development."

Income from the Fund will be used to grant scholarships to undergraduate or graduate students majoring in accredited Mechanical Engineering or Mechanical Engineering Technology programs. Preference will be given to students with an interest in the benefits of consensus industry standards for mechanical engineering applications.

Gerry's generous contribution will not only ease the financial burden for future engineers who are pursuing an engineering education, in a larger sense this donation is an expression of optimism in the ability of engineers to build a better future, and a demonstration of his faith in ASME's mission to advance engineering for the benefit of humanity.

**Gerry Eisenberg** 

#### Archimedes Club

Since 2003, the Archimedes Club has united the ASME planned giving community in the common goal of supporting programs that will help advance the engineering profession.

#### **Alexander Holley Society**

Holley Society members provide ASME with critical resources to advance the engineering profession and help transform the world through unique engineering-based programs.

#### **MEMBERS**

Frank Adamek Michael Adams **Timothy Adams** Mostafa Aghazadeh Todd Allen Sunao Aoki Mehdi Asheghi Bala Balachandran Kenneth Balkey Javid Bayandor David Beddow Tom Bell-Wright Lisa Bessler Andrew Bicos Keith Bloesch William Borter Betty Bowersox Elah Bozorg-Grayel M. Brackin Stephen Brunkhorst Charles Bruny Jian Cao Eleni Chatzi Thomas Costabile Warren Devries Philip Divietro Nicole Dyess Kornel Ehmann Gerry Eisenberg Nicholas Fezie Alvin Filstrup

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Paula Ludwigson Robert Manross **Richard Marboe** Roger McCarthy Thomas Meehan Shreves Melkote Thomas Mowry Nakamura Nakamura Wataru Nakayama Michael O'Connor Robert Pangborn Thomas Pestorius Harry Petreguin Mary Lynn Realff Rvan Reardon Johnson Samuel Anand Sethupathy Robert Skaggs Walter Sperko

Scott Stallard Mary Grace Stefanchik Sathyan Subbiah John Sutherland John Swanson Keith Thaver Samuel Thomas David Thompson Alexander Vakakis Ganesan Venkatasubraman Daniel Waldorf Peng Wang Thomas Washburn Albert Wavering John Wentz Charla Wise Huayong Yang Justin Young Bingyi Yu Sam Zamrik Mohamed Zarrugh Rixin Zhu

# 2020 HONORS & AWARDS

The ASME Honors and Awards program, funded through the ASME Foundation by individual awards and endowment funds, pays tribute to engineering achievement and contributions to the profession.



Subra Suresh was selected to receive the ASME Medal, established in 1920 as the Society's highest award, and given to recognize eminently distinguished engineering achievement. Dr. Suresh, who serves as president and distinguished university professor at Nanyang Technological University in Singapore, was honored for his exceptional contributions to the higher learning of engineering, and for his years of research in the underlying properties and performance of engineered and biological materials and their effects on human diseases. A Fellow of ASME, Dr. Suresh has been awarded 17 honorary doctorate degrees from universities spanning the globe.

The Medal was presented to Dr. Suresh during a virtual ceremony, which was held in conjunction with the ASME International Mechanical Engineering Congress and Exposition in November 2020.

> HONORARY MEMBERS Je-Chin Han, Sc.D., Fellow Farshid Sadeghi, Ph.D., Fellow Masayoshi Tomizuka, Ph.D., Fellow

ASME MEDAL Subra Suresh, Sc.D., Fellow

ADAPTIVE STRUCTURES AND MATERIAL SYSTEMS AWARD Wei-Hsin Liao, Ph.D., Fellow

BERGLES-ROHSENOW YOUNG INVES-TIGATOR AWARD IN HEAT TRANSFER Amy Marconnet, Ph.D., Member

BLACKALL MACHINE TOOL & GAGE AWARD ChaBum Lee, Ph.D.

PER BRUEL GOLD MEDAL FOR NOISE CONTROL AND ACOUSTICS J. Stuart Bolton, Ph.D.

THOMAS A. EDISON PATENT AWARD Shorya Awtar, Sc.D., Fellow

EDWIN F. CHURCH MEDAL Nael Barakat, Ph.D., Fellow

DANIEL C. DRUCKER MEDAL Glaucio H. Paulino, Ph.D., Fellow WILLIAM T. ENNOR MANUFACTURING **TECHNOLOGY AWARD** Ahmed A. Busnaina, Ph.D., Fellow

NANCY DELOYE FITZROY AND ROLAND V. FITZROY MEDAL John A. Rogers, Ph.D.

FLUIDS ENGINEERING AWARD Howard A. Stone, Ph.D., Member

FREEMAN SCHOLAR AWARD Alfredo Soldati, Ph.D.

Y.C. FUNG EARLY CAREER AWARD Matthew B. Fisher, Ph.D., Member

GAS TURBINE AWARD Bogdan C. Cernat, Member Marek Pátý Cis De Maesschalck, Ph.D. Sergio Lavagnoli, Ph.D., Member

KATE GLEASON AWARD Lisa Burton O'Toole, Ph.D.

**RICHARD J. GOLDSTEIN ENERGY** LECTURE AWARD James J. Truchard, Ph.D.

MELVIN R. GREEN CODES AND STANDARDS MEDAL Urev R. Miller, P.E., Fellow

HEAT TRANSFER MEMORIAL AWARDS Terrence W. Simon, Ph.D., Fellow (SCIENCE)

Bahgat Sammakia, Ph.D., Fellow (ART)

Vishwanath Prasad, Ph.D., Fellow (GENERAL)

MAYO D. HERSEY AWARD Bharat Bhushan, Ph.D., Fellow

PATRICK J. HIGGINS MEDAL Mark C. Malburg, Ph.D., Member

HOLLEY MEDAL Yogesh Jaluria, Ph.D., Fellow

SOICHIRO HONDA MEDAL Asad M. Madni, Ph.D., Member

INTERNAL COMBUSTION ENGINE AWARD André L. Boehman, Ph.D., Fellow

WARNER T. KOITER MEDAL Anthony M. Waas, Ph.D., Fellow

ROBERT E. KOSKI MEDAL Shinichi Yokota, D.Eng., Member

ALLAN KRAUS THERMAL MANAGEMENT MEDAL Michael J. Ellsworth Jr.

FRANK KREITH ENERGY AWARD Petros Sofronis, Ph.D., Fellow

BERNARD F. LANGER NUCLEAR CODES AND STANDARDS AWARD Annemarie Appleton, Member

**GUSTUS L. LARSON MEMORIAL AWARD** Yuri Bazilevs, Ph.D., Member

H.R. LISSNER MEDAL Larry A. Taber, Ph.D., Fellow

MACHINE DESIGN AWARD Jian S. Dai, Ph.D., Fellow

CHARLES T. MAIN STUDENT LEADERSHIP AWARDS Jad Hakim, Member (GOLD)

Adam Hernández-Miranda, Member (SILVER)

McDONALD MENTORING AWARD Eduardo J. Barrientos, Ph.D., Member

M. EUGENE MERCHANT MANUFACTURING MEDAL OF ASME/SME Krishnamoorthy Subramanian, D.Sc., Fellow

VAN C. MOW MEDAL Stavros Thomopoulos, Ph.D., Fellow

NADAI MEDAL Frank Zok. Ph.D., Member

SIA NEMAT-NASSER EARLY CAREER AWARD Baoxing Xu, Ph.D., Member

ROBERT M. NEREM EDUCATION AND MENTORSHIP MEDAL Dawn Elliott. Ph.D., Fellow

BURT L. NEWKIRK AWARD Sung-Hwa Jeung, Ph.D., Membe

EDWARD F. OBERT AWARD Henry A. Long III, Ph.D., M Ting Wang, Ph.D., Fellow

DIXY I FE RAY AWARD Edward S. Rubin, Ph.D., Fellow

R. TOM SAWYER AWARD Sunao Aoki, Ph.D., Fellow

MILTON C. SHAW MANUFACTURING RESEARCH MEDAL Jian Cao, Ph.D., Fellow

**BEN S. SPARKS MEDAL** Michael M. Umbriac, Member Jesse Austin-Breneman, Ph.D., Member Daniel R. Cooper, Ph.D., Member Panos Y. Papalambros, Ph.D., Member

J. HALL TAYLOR MEDAL Don Frikken, Fellow

HENRY R. WORTHINGTON MEDAL

OLD GUARD EARLY CAREER AWARD Simon C Pun Member

RUFUS OLDENBURGER MEDAL Mark W. Spong, D.Sc.

OUTSTANDING STUDENT SECTION ADVISOR AWARD Jason Ash, Ph.D., Member

MARSHALL B. PETERSON AWARD Zhou Chen, Ph.D., Member

PERFORMANCE TEST CODES MEDAL William C. Wood, Member

JAMES HARRY POTTER GOLD MEDAL Nagamangala K. Anand, Ph.D., Fellow

PI TAU SIGMA GOLD MEDAL David G. Kwabi, Ph.D, Member

RALPH COATS ROE MEDAL Bill Hammack. Ph.D.

CHARLES RUSS RICHARDS MEMORIAL AWARD Katepalli R. Sreenivasan, Ph.D., Fellow

SAFETY CODES AND STANDARDS MEDAL Barry Blackaby

LAKSHMI SINGH EARLY CAREER LEADERSHIP AWARD Columbia Mishra, Ph.D., Member

RUTH AND JOEL SPIRA OUTSTANDING DESIGN E DUCATOR AWARD Jonathan Cagan, Ph.D., Fellow

ROBERT HENRY THURSTON LECTURE AWARD Andrew Alleyne, Ph.D., Fellow

TIMOSHENKO MEDAL Mary C. Boyce, Ph.D., Fellow

WORCESTER REED WARNER MEDAL Marco Amabili, Ph.D., Fellow

GEORGE WESTINGHOUSE MEDAL

SAVIO L-Y. WOO TRANSLATIONAL BIOMECHANICS MEDAL Mehmet Toner, Ph.D., Fellow

S.Y. ZAMRIK PRESSURE VESSEL AND PIPING MEDAL David L. Rudland, Ph.D., Fellov

The American Society Of Mechanical Engineers CONSOLIDATED STATEMENTS OF FINANCIAL POSITION June 30, 2021 and 2020

#### Assets 20 \$ 30, Cash Accounts receivable, less allowance for doubtful accounts of \$490,000 and \$420,000 in 2021 and 2020, 20, respectively Prepaid expenses, deferred charges, 20, and other current assets 134, Investments Furniture, equipment, software and 21, leasehold improvements, net Intangible assets, net 7, 32 Goodwill, net Total assets \$ 266 Liabilities and Net Assets Liabilities: Accounts payable \$ 21, and accrued expenses Accrued employee benefits 14, Deferred publications and subscriptions revenue 35, Accreditation and other deferred revenue 16, Deferred rent 7, Payroll Protection Program loan Debt facilities 23, Total liabilities 119, Commitments Net assets: Without donor restrictions 126

 With donor restrictions
 21,056,008
 16,544,490

 Total net assets
 147,377,776
 113,254,316

 Total liabilities and net assets
 \$ 266,712,208
 178,183,910

Financials



21	2020
,135,442	12,561,206
,418,936	13,376,204
,201,302	4,557,451
,600,380	127,210,285
,338,386	20,478,764
,733,333	-
,284,429	-
,712,208	178,183,910
004 450	0.155.046
,804,460	8,155,946
,446,602	10,463,080
,359,277	6,677,762
,517,038	21,642,538
,707,055	8,665,985 9,324,283
-	2,324,283
,500,000	
,334,432	64,929,594
,321,768	96,709,826
,056,008	16,544,490
,377,776	113,254,316
,712,208	178,183,910

The American Society Of Mechanical Engineers CONSOLIDATED STATEMENTS OF ACTIVITIES

Years ended June 30, 2021 and 2020



ne 30, 2021 and 2020			SETTING TI
	2021	2020	
Net assets without donor restrictions:			
Operating revenue:			
Membership dues, publications, accreditation, conference fees, and other revenue by sector/ operating unit:			
Codes and standards	<b>\$</b> 71,755,368	55,268,174	
Conformity assessment	33,117,553	24,147,078	
Learning and development	3,612,945	4,199,278	
Philanthropic programs	1,371,637	1,012,768	
Technical events and content	2,588,957	6,856,759	
Publications	14,398,428	14,151,541	
Constituent engagement	10,286,298	11,195,738	
Miscellaneous revenue	11,885,153	345,537	
Total operating revenue	149,016,339	117,176,873	
Net assets released from restrictions	637,976	2,069,502	
Total operating revenue and other support	149,654,315	119,246,375	
Operating expenses:			
Program services by sector/operating unit:			
Codes and standards	39,233,497	18,475,625	
Conformity assessment	14,139,249	15,204,493	
Learning and development	4,207,079	7,372,495	
Philanthropic programs	6,032,631	6,477,001	
Technical events and content	10,316,245	14,244,838	
Publications	10,196,095	11,453,908	
Technology advancement and business development and industry events	3,835,916	4,082,811	
Global public affairs	3,857,130	5,248,508	
Constituent engagement	5,022,145	5,809,353	
Total program services	96,839,987	88,369,032	
Supporting services:			
Marketing	8,071,214	8,206,745	
Sales and customer care	2,529,569	2,442,322	
General administration	36,968,047	29,550,742	
Total supporting services	47,568,830	40,199,809	
Total operating expenses	144,408,817	128,568,841	
Excess (deficit) of operating revenues over expenses	5,245,498	(9,322,466)	
Nonoperating activities:			
Investment returns, net Pension and post-retirement changes other than net	24,010,671	1,664,993	
periodic costs	317,424	(7,428,913)	
Other components of net periodic costs	38,349	(80,464)	
Total nonoperating activities	24,366,444	(5,844,384)	
Increase (decrease) in net assets without donor restrictions	29,611,942	(15,166,850)	
Net assets with donor restrictions:			
Contributions	1,190,458	313,945	
Investment returns, net	3,988,006	338,202	
Present value adjustment to annuities payable	(28,970)	(114,440)	
Net assets released from restrictions	(637,976)	(2,069,502)	
Increase (decrease) in net assets with	(037,970)	(2,009,302)	6
donor restrictions	4,511,518	(1,531,795)	
Increase (decrease) in net assets	34,123,460	(16,698,645)	
Net assets at beginning of year	113,254,316	129,952,961	
Net assets at end of year	\$ 147,377,776	113,254,316	NE
		1	State of the second sec

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