# **ABET ANNUAL REPORT**

FOR FISCAL YEAR ENDING SEPTEMBER 30, 2020

# **CONTENTS**

- **4** Letter from the President
- Letter from the Executive Director and CEO 6
- Resetting and Reimagining Higher Education 8
- 10 About ABET
- **12** Global Impact

# **Accreditation Statistics**

- Statistics: 2019-20 Accreditation Statistics 14
- Statistics: Behind the Data 16

# 2020 ABET Awards

- ABET Awards Overview 18
- 2020 ABET Fellow Awards 20
- 2020 Claire L. Felbinger Award for Diversity and Inclusion 24
- 26 2020 ABET Innovation Award

# **2019-20 Consolidated Financial Statements**

- Independent Auditors' Report 29
- Consolidated Statement of Financial Position 30
- 31 **Consolidated Statement of Activities**
- **Consolidated Statement of Functional Expenses** 32
- **Consolidated Statement of Cash Flows** 34
- Notes to Consolidated Financial Statements 35
- Independent Auditors' Report on Consolidating Information 41
- Consolidating Statement of Financial Position 42
- Consolidating Statement of Activities 43

- 44
- Statistics: 2019-20 Volunteer Characteristics 46

# Acknowledgements

- **48** Board of Directors
- 49 Board of Delegates
- **51** Area Delegations
- 53 Accreditation Council
- Academic Advisory Council 54
- **Global Council** 55
- Inclusion, Diversity and Equity Advisory Council 56
- Industry Advisory Council 57
- 58
- **Computing Accreditation Commission** 59
- **Engineering Accreditation Commission** 61
- 64
- Team Chairs 66
- **Program Evaluators** 72
- **ABET Professional Staff** 88

Why We Need to Address Inequities in STEM Education

Applied and Natural Science Accreditation Commission

Engineering Technology Accreditation Commission

# **Letter from the President**

This past year was one unlike any in recent memory. The global COVID-19 pandemic struck in early spring and had an immediate impact on our organization's plans and operations for the remainder of fiscal year 2020. In times like these, the true capabilities of an organization are best demonstrated by their response to a crisis. The commitment, strength and determination of our staff and many volunteer experts clearly showed that we are indeed a resilient organization.

We immediately shifted to virtual meetings for all activities, including our Governance Meetings, Annual Commission Meetings and the 2020-2021 Accreditation Cycle visits. The shift to virtual operations required rapid implementation of online meeting and webinar capabilities, as well as training of our volunteer community. The ABET staff executed this transition superbly under trying circumstances.

We are a federation of societies, and our member societies are an integral part of our organization. Our board members, Program Evaluators, team chairs and commissioners are all individual members of these professional societies. In the fulfillment of their role, our society delegates approve our accreditation policies and procedures, board officers, commission officers and members and ABET accreditation criteria, and they provide valuable insight to our board of directors. To support our member societies, we made significant strides this year towards a goal set a couple of years ago to reduce their annual assessment fees, while also assisting each of our member societies in navigating through the impacts of the pandemic to the best of our abilities.

Universities and colleges also have been dealing with unprecedented changes to their operations and budgets, as they worked to reallocate resources while continuing to educate students. In light of these challenges, we worked closely with our programs that were on cycle to have an evaluation this fall to ensure that every program received the same high level of quality expected, without experiencing any additional challenges as a result. We also did not increase any of our fees during 2020 and 2021.

Our volunteer community is one of our strengths and has enabled our growth and impact. I commend our program evaluators for their commitment to ensuring the quality of technical education as they continued the important work of accreditation in a new virtual format.

As I conclude my term as ABET President, I would like to thank the volunteers and professional staff for their flexibility and commitment during this year, and for their dedication and countless hours of work. It has been an honor to serve as President of this organization.



# David P. Kelly, M.S., MBA 2019-20 ABET President

Sand P Killy

# Letter from the Executive Director and CEO

This past year was unprecedented in many ways. What started off as another promising year quickly pivoted to a new way of life for the entire world. COVID-19 continues to have a dramatic impact on all aspects of our everyday lives, business practices, health and economy. It devastated many around the world and will be a global health crisis we must address for the foreseeable future. But while COVID-19 has brought many challenges, it has also provided opportunities for positive change.

One area that has directly benefited is our environment. Science News reported that the reduction in human activity resulted in a 10-30 percent reduction in global greenhouse gas emissions in April of 2020. While these climate-related changes may have been temporary, they provide hope that changes in human behavior can have a substantial impact on our planet and demonstrate that we can make a difference.

This year our entire workforce — both staff and our volunteer experts — operated in an entirely different environment. ABET's headquarters and training center in Baltimore, Maryland, has been closed since mid-March of 2020, and the entire staff that would normally travel to our offices each day are now working from home. I am proud of how seamlessly the ABET staff transitioned to working remotely and carried on our important work. In addition, our Boards, Delegations, Commissions, Program Evaluators and Councils and Committees have all successfully transitioned to a virtual environment for their activities. We started to review the first of almost 800 programs remotely, allowing our teams to work directly with programs around the world. I am particularly pleased with the success our teams and programs have experienced so far.

Another opportunity for change can be found in how we deliver education. As the world pivoted to a virtual work environment, so did our classrooms. One benefit of online education is increased accessibility, with the potential to reach far more people than a traditional in-person setting. Now that we have been forced to move online, what aspects of this shift can we implement in the future to enrich student learning? Continuous improvement is essential to education — perhaps this was the disruptive event higher education needed to think about how we might enhance the way we educate future STEM professionals.

This past year also demonstrated the need for the prioritization of inclusion, diversity, equity and justice principles and practices across the STEM community. We've witnessed significant social inequality over this past year, and COVID has amplified that in many ways — especially in terms of accessibility to testing and treatment. To succeed in their professions, graduates must be prepared to thrive in diverse and inclusive environments, and our organization needs to ensure our policies, practices and accreditation criteria promote these ideals. We have made significant progress during the past few years, and we continued that trend with the establishment of the ABET Board of Directors' Inclusion, Diversity and Equity Advisory Council in March of 2020 to ensure the principles of diversity, equity and inclusion are given the highest priority.

Each month I publish an article on Medium and LinkedIn, which provides an opportunity to pause and reflect on the challenges we face in the STEM community. I invite you to join me in the conversation on these important topics, and I have included two in this report that offer a closer look at some of these issues, as well as the opportunities they present. Collectively, we can drive real change in STEM education, and our world.

I know that the graduates of programs accredited by ABET will be the ones to solve the many complex challenges facing us — they are the problem solvers of the future. I am confident they will make the world a better place — one that is safer, more efficient and more sustainable for us all.



# Michael K.J. Milligan, Ph.D., P.E., C.A.E.

ABET Executive Director and Chief Executive Officer

Unider they



# RESETTING AND REIMAGINING HIGHER EDUCATION

By Michael Milligan, ABET Executive Director and CEO

This article was first published December 22, 2020 on Medium.

There is no doubt that COVID-19 has disrupted the world in many ways, but in a crisis of this magnitude, we can find opportunities for positive change — if we look for them. This disruption has given us a chance to hit the reset button and find new ways of going about our lives. In a relatively short amount of time, we've adjusted to doing everything online — from business and education to family gatherings and social events — which has allowed more opportunities for collaboration on a global scale. A recent example is the World Engineering Education Forum and Global Engineering Deans Council (WEEF & GEDC) 2020 Virtual Conference I attended last month.

Each year, the International Federation of Engineering Education Societies (IFEES) and the Global Engineering Deans Council hold the WEEF & GEDC global engineering education conference in different locations around the world. Last year, we convened in Chennai, India, and previous years included Albuquerque, Seoul, Kuala Lumpur, Florence, Buenos Aires as well as others. We discussed the most critical issues in engineering education and how we can best prepare future professionals to address the many complex problems facing our planet.

Originally slated to be an in-person event in Cape Town, South Africa, like many other conferences this year, WEEF & GEDC pivoted to a virtual format. In a normal year, hundreds of participants — educators, administrators, students, and representatives from industry, governmental and non-governmental organizations — would fly from all over the world to attend. This year, we convened online instead.

The virtual format had many benefits, but one that seemed particularly fitting was the positive impact on our environment by not travelling. I can't help but wonder how many tons of carbon we avoided putting into the atmosphere by attending from home instead of flying to the conference. The good news was that global greenhouse gas emissions plunged earlier this year as a result of people not travelling. The bad news: according to the United Nations Environment Programme (UNEP)'s Emissions Gap Report 2020, despite the brief dip in emissions, the planet is still heading for a global temperature rise this century exceeding 3 degrees Celsius. However, with a green pandemic recovery and commitments to netzero emissions, UNEP's report is optimistic that we can still slow climate change. But we need to act, and soon.

As STEM professionals, we have an obligation to use our technical and professional skills to deliver creative solutions that will build a better world for all. COVID-19 has already forced us to



change how we operate, so how can we maintain those behaviors that have had a positive impact on the planet?

In a recent **article**, I discussed **declining enrollment** in higher education since the pandemic began. Events like WEEF & GEDC 2020 give me hope that even in the face of a global crisis, there are many dedicated people working to ensure the continued health of global STEM education.

At ABET, we strive to strengthen postsecondary STEM programs in ways that teach students to care not just about technical solutions, but also how those solutions impact our environment and society. Now that we've hit the reset button, let's continue to reimagine our processes and create new, sustainable solutions.

COVID-19 has forced us to change how we do things, but as the first round of vaccines are now being distributed, we have the option to either return to our pre-pandemic routines or to do things in a way that have a positive impact on the environment. We have an opportunity to redesign the world to be safer, more efficient, more comfortable and more sustainable for all. Let's not miss this chance to change the world for the better.

4307 Programs Accredited Worldwide

846 Institutions with Accredited Programs

We champion excellence worldwide. Our approach, the standards we set and the quality we guarantee, inspires confidence in those who aim to build a better world — one that is safer, more efficient, more comfortable and more sustainable.



# **ABOUT ABET**

We accredit college and university programs in the areas of applied and natural science, computing, engineering and engineering technology at the associate, bachelor's and master's degree levels.

With ABET accreditation, students, employers and the society we serve can be confident that a program meets the quality standards that produce graduates prepared to enter a global workforce.

Developed by technical professionals from ABET's member societies, our criteria focus on what students experience and learn. Sought worldwide, ABET's voluntary peer-review process is highly respected because it adds critical value to academic programs in the technical disciplines, where quality, precision and safety are of the utmost importance.

Our more than 2,200 experts come from industry, academia and government. They give their time and effort supporting quality assurance activities around the world by serving as Program Evaluators, commissioners, board members and advisors.

ABET is a nonprofit, non-governmental organization with ISO 9001:2015 certification.

# ABET STRATEGIC PRIORITIES 2019 - 2022

Goal 1: Enhance member society engagement across the scope of ABET activities to maximize the impact and value to both the societies and ABET.

Goal 2: Refine and disseminate a set of consistent, targeted, concise value propositions for ABET accreditation.

Goal 3: Expand ABET quality assurance services in current and emerging educational credentials.

Goal 4: Improve the efficiency and effectiveness of the accreditation cycle.

# **GLOBAL IMPACT**

ABET's global engagement supports our purpose of promoting and improving the quality of technical education throughout the world. We do this in several ways:

• Entering Memoranda of Understanding (MOUs) and Letters of Intent (LOIs) with accrediting bodies in other countries that allow us to work collaboratively with these agencies during various periods of their development. Activities through an MOU may include sharing of best practices, assisting organizations in the development of accreditation processes, and providing training workshops for staff and volunteers of peer organizations. ABET has signed 19 MOUs and one LOI with accrediting agencies located in Argentina, Canada, the Caribbean Region, Central America, Chile, China, Egypt, France, Germany, Israel, Japan, Korea, Mexico, Peru, Portugal, Saudi Arabia, Spain, Chinese Taipei, Ukraine and Uruguay.

• Supporting the mutual recognition of accrediting systems worldwide through Mutual Recognition Agreements (MRAs). MRAs recognize the substantial equivalence of mature accreditation systems and programs accredited by signatory organizations within their jurisdictions. Signatories of MRAs agree that the graduates of programs accredited by the accord's signatories are prepared to begin practice of the profession at the entry level. We are a signatory to five MRAs: the multi-lateral Dublin, Seoul, Sydney and Washington Accords and the bilateral agreement between Engineers Canada and ABET.

• Recognizing the substantial equivalency of academic programs. "Substantial equivalency" means that a program is comparable in program content and educational experience but may differ in format or method of delivery. ABET currently recognizes programs at 26 colleges and universities outside the U.S. as being substantially equivalent.

• Direct accreditation by ABET of academic programs outside of the U.S. The ABET accreditation process for programs located outside of the U.S. is identical to the accreditation process for programs within the U.S. ABET has currently accredited 979 programs at 197 institutions in 40 countries/ areas outside the U.S.



AUSTRIA (1) BAHRAIN (11) BRAZIL (2) BRUNEI DARUSSALAM (1) CANADA (1) CHILE (6) CHINA (8) COLOMBIA (40) ECUADOR (15) EGYPT (24) GEORGIA (2) HONG KONG (1) INDIA (55) INDONESIA (31) JAMAICA (1) JORDAN (48) KAZAKHSTAN (3) KUWAIT (38) LEBANON (53) MEXICO (81) MONGOLIA (3)

MOROCCO (3 NETHERLAND OMAN (9) PALESTINE (1 PERU (60) POLAND (2) PORTUGAL (2 PHILIPPINES ( QATAR (11) RUSSIAN FDF

3)	SAUDI ARABIA (199)
)S (2)	SINGAPORE (2)
	SOUTH AFRICA (1)
1)	SOUTH KOREA (3)
	SPAIN (32)
	SRI LANKA (1)
2)	TURKEY (62)
62)	U.A.E. (82)
	UNITED STATES (3328)
R. (1)	VIETNAM (9)

# **ACCREDITATION STATISTICS**

As of October 1, 2020













354

2016

2015

\*Individual programs may embrace more than one curricular area, and thus may be counted more than once in these charts.

INSTITUTIONS WITH

BY COMMISSION

2015-20

ANSAC

CAC

ACCREDITED PROGRAMS

EAC

ETAC



15

# Behind the Data

Accreditation is a review process to determine if educational programs meet defined standards of quality. Once achieved, accreditation is not permanent — it is renewed periodically to ensure that the quality of the educational program is maintained.

We are a federation of member professional and technical societies. These societies and their individual members collaborate through ABET to develop standards of quality, known as ABET Criteria, on which our review teams base their evaluations of programs under consideration for accreditation.

We offer accreditation to programs only, not to degrees, departments, colleges, institutions, or individuals.

The accreditation process typically takes 18 months to complete. The five-step process consists of a readiness review to determine whether or not a program is ready to submit a formal Request for Evaluation (RFE), the submission of an RFE, a Self-Study Report to document how the program meets our criteria, a program visit conducted by a team of peer colleagues and could include faculty, administrators and industry and government professionals, and a 30-day due process period. A final statement is sent to each program's institution and communicates the review team's findings, the program's responses and the accreditation commission's decision. 10 LARGEST CURRICULAR AREAS ACCREDITED BY COMMISSION

As of October 1, 2020

CAC EAC ETAC



10 LARGEST CURRICULAR AREAS BY NUMBER OF ACCREDITED PROGRAMS ACROSS ALL COMMISSIONS

As of October 1, 2020





# **2020 ABET AWARDS**

We hold an awards celebration each year to recognize organizations and individuals who inspire excellence in STEM education. Through the ABET Awards, we honor the achievements of some of our most dedicated Experts, as well as individuals who are champions of diversity and inclusion and of innovation.

While travel restrictions due to COVID-19 did not allow us to gather in person for our awards gala this year, we celebrated the remarkable achievements of the 2020 ABET Award recipients through a virtual event held on October 31, 2020.

ABET Bridge served as the sponsor of two awards: the ABET Innovation Award and the Claire L. Felbinger Award for Diversity and Inclusion. The recipients of these two awards each received \$10,000 to continue their important work.

To learn more about our distinguished honorees and to see videos from the 2020 ABET Awards Celebration, visit **www.abet.org/awards**.

# **ABET Fellow Awards**

The distinction of ABET Fellow is an honor that recognizes individuals that surpass normal expectation by dedicating notable time and effort to achieving our endeavors.

# **Ronald J. Bennett**

• For contributions to training ABET evaluators and trainers, facilitating leadership development of ABET volunteers and serving as a member of the EAC Executive Committee.

Ronald J. Bennett is 3M Thwaits Fellow and Professor Emeritus for the School of Engineering at the University of St. Thomas. He holds a B.S. degree in math and physics from the University of Wisconsin–Eau Claire, M.S. and Ph.D. degrees in metallurgical engineering from the University of Minnesota, and an MBA from the College of St. Thomas. He worked in electronics, medical device and knowledge industries for 25 years before joining academia. Bennett provided leadership in the development of the School of Engineering at the University of St. Thomas and became its Founding Dean. He has led the Society of Manufacturing Engineers Center for Education and the Minnesota Center for Engineering and Manufacturing Excellence. He is a registered professional engineer in the state of Wyoming.

Bennett has volunteered with the Engineering Accreditation Commission (EAC) of ABET since 2001, participating in 18 national and international evaluation teams, and served as editor for 33 institution reviews. He has served as a Program Evaluator (PEV), EAC commissioner, EAC executive committee member, member of the Engineering Area Delegation, and on the Board of Delegates, where he serves on the governance and strategic goal steering committees. Bennett has been a support facilitator for Program Evaluator Candidate (PEVC) training since 2014.

# **Patricia Brackin**

• For shepherding the development and approval of EAC criteria changes, training ABET volunteers and facilitating workshops for institutional representatives and serving on the AC Training Committee and EAC Executive Committee.

Reading The Manhattan Project prompted Patricia Brackin to select Nuclear Engineering as her undergraduate major much to the surprise of her family. After receiving B.S. and M.S. degrees in Nuclear Engineering from the University of Tennessee, she joined Chicago Bridge and Iron. As a new engineer, she was required to learn about all aspects of the company, including learning to machine, weld, draft, work construction and design. She left Chicago Bridge and Iron to enter full-time teaching and later went to Georgia Tech for her Ph.D. in Mechanical Engineering. She became a PEV after encouragement from her mentor, Bill Wepfer, and has also served as Team Chair, a member of the EAC Executive Committee, a table facilitator at ABET PEVC training, Chair of the Criteria Committee and as Vice-Chair of Operations. She helped lead the development and approval of the new C3-C5 criteria and has given numerous presentations and workshops for ABET. She is a licensed professional engineer and a Fellow of ASME.

She currently is a Professor and Director of Engineering Design at Rose-Hulman Institute of Technology. In her free time, she loves playing with her granddaughters — especially pretending to be various animals for their amusement.



# **ABET Fellow Awards**

# **Jeffrey W. Fergus**

• For leadership ensuring high-quality training of Program Evaluators and Team Chairs, a smooth transition to the new engineering criteria and laying the foundation for virtual visits within the EAC.

Jeffrey W. Fergus is the associate dean for undergraduate studies and program assessment and a professor of materials engineering in the Samuel Ginn College of Engineering at Auburn University. He received a B.S. degree in metallurgical engineering from the University of Illinois and a Ph.D. in materials science and engineering from the University of Pennsylvania. He is a registered professional engineer in the state of Alabama.

Fergus began his service to ABET in 2003 as a PEV for The Minerals, Metals & Materials Society (TMS), which he represented on the EAC beginning in 2008. He subsequently joined the EAC Executive Committee and served as Chair of the EAC for the 2019-20 cycle. Fergus also has served as a support and lead facilitator for face-to-face PEVC training since 2011. Fergus has served in leadership roles in other professional societies including serving on the board of directors for TMS and for the Electrochemical Society (ECS). He is a fellow of ECS and served as Editor of ECS Transactions from 2013-2020. He also has served as chair of the High Temperature Materials Division of ECS and the Graduate Studies Division of the American Society for Engineering Education (ASEE).

# **Donna S. Reese**

• For sustained contributions to STEM education and gender diversity, and leadership in improving ABET accreditation processes and operations across all commissions.

Donna S. Reese holds a bachelor's degree from Louisiana Tech and M.S. and Ph.D. degrees from Texas A&M University, all in computer science. She served on the faculty in the Computer Science & Engineering Department at Mississippi State University from 1989-2017. During her tenure at MSU, she served as System Software Thrust leader for MSU's NSF Engineering Research Center for Computational Field Simulation, Associate Dean for Undergraduate Studies in the Bagley College of Engineering and Head of the Computer Science and Engineering Department. Reese was recognized by the National Association for Academic Advising for outstanding advising and as a John Grisham Master Teacher, MSU's premier teaching award. Reese is a Fellow of the American Society for Engineering Education.

Reese has volunteered with the CAC of ABET since 2005 as a Program Evaluator for Computer Science and Software Engineering. She served on the Executive Committee of CAC, including serving as Chair of CAC for 2017-18. She has also served as a support and lead facilitator for PEVC training since 2015. Reese is currently vice president for CSAB, which serves as the lead society for computing education within ABET.

# **Claire L. Felbinger Award** for Diversity and Inclusion

The Claire L. Felbinger Award for Diversity and Inclusion recognizes U.S.-based individuals, educational units, associations and firms for extraordinary success in achieving diversity and inclusiveness or for facilitating diversity and inclusiveness in the technological segments of our society.

# **Ambareen Siraj**

• For leadership in establishing the Women in CyberSecurity annual conference and the Women in CyberSecurity Initiative, which have increased the participation of women in cybersecurity significantly.

Ambareen Siraj is a professor of Computer Science and the founding director of Tennessee Tech's Cybersecurity Education, Research and Outreach Center (CEROC). She has served as the leader on several National Science Foundation and National Security Agency education and workforce development grants. Siraj is also the founder of the Women in CyberSecurity (WiCyS) organization, an initiative to recruit, retain and advance women in cybersecurity. Her efforts to educate students and enhance the cybersecurity field of study goes beyond classes, research, outreach projects, workshops and conferences.

She is a frequent speaker in various cybersecurity conferences on topics ranging from education, curriculum, workforce development, outreach, security issues and solutions for cyber-physical systems to diversity and inclusion in cybersecurity. Siraj received the Colloquium for Information Systems Security Education Exceptional Leadership in Education Award in 2018.

# **ABET Innovation Award**

The ABET Innovation Award recognizes vision and commitment that challenge the status quo in technical education.

# IT Students Capacity Building Program by iSITE -**Integrated Southern Tagalog Association of IT Education**

• For providing collaborative industry-aligned seminars, training and conferences to students in geographically dispersed IT programs and promoting opportunities for students to interact, learn and showcase their work.

iSITE was founded in September 2015 by eight deans of different universities in Region 4 of the Philippines. It is an association with student members that provides seminars, conferences and research presentations.

The Student Capacity Building Program of iSITE has organized technical and non-technical seminars and training, regional research presentations for thesis and capstone projects and has connected standout IT students with prestigious industries across the country. Each event has been attended by over 30 schools and universities in the region, catering to over 800 participants. Students are trained to compete in national IT competitions, positioning them for success in their career endeavors after graduation.





The Board of Directors Accreditation Board for Engineering and Technology, Inc. and ABET Foundation, Inc. Baltimore, Maryland

We have audited the accompanying consolidated financial statements of Accreditation Board for Engineering and Technology, Inc. (ABET) and ABET Foundation, Inc. (the Foundation), (collectively referred to as the Organization), which comprise the consolidated statement of financial position as of September 30, 2020, and the related consolidated statements of activities, functional expenses, and cash flows for the year then ended, and the related notes to the consolidated financial statements.

### Management's Responsibility for the Consolidated Finandal Statements

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

#### Auditors' Responsibility

Our responsibility is to express an opinion on these consolidated financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, the auditors consider internal control relevant to the entity's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of the Organization as of September 30, 2020, and the changes in its net assets and its cash flows for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Washington, D.C. February 11, 2021

> COUNCILOR, BUCHANAN & MITCHELL, P.C. - CPAs AND BUSINESS ADVISORS www.cbmcpa.com | (F) 301.986.0432

# **2019-20 CONSOLIDATED FINANCIAL STATEMENTS**

Accreditation Board for Engineering and Technology, Inc. and ABET Foundation, Inc.

7910 WOODMONT AVENUE SUITE 500 BETHESDA, MD 20814 (T) 301.986.0600

1150 18<sup>TH</sup> STREET, NW SUITE 550 WASHINGTON, DC 20036 (T) 202.822.0717

# **Independent Auditors' Report**

Councilor Buchanen + Mitchell, P.C.

Certified Public Accountants



# **CONSOLIDATED STATEMENT OF FINANCIAL POSITION**

September 30, 2020

# **CONSOLIDATED STATEMENT OF ACTIVITIES**

For the Year Ended September 30, 2020

	Support and Revenues				
Assets		Accreditation Fees			
Assets		Donated Services			
Cash and Cash Equivalents	\$ 7.922.334	Membership Assessments			
Accounts Receivable. Less Allowance for Doubtful		Professional Service Revenues			
Accounts of Approximately \$387,000	24,667	Investment Income (Including Gains of			
Prepaid Expenses and Other Current Assets	106,973	Approximately \$161,000)			
Investments	6,494,853	Other Revenue			
Property and Equipment and Intangible Assets – Net	4,500,027	Total Support and Revenues			
Investment in Deferred Compensation	427,551				
Total Assets	\$ 19,476,405	Expenses			
		Program Services			
Liabilities and Net Assets		Accreditation			
Liabilities		Accreditation - Donated Services			
Accounts Payable and Accrued Expenses	\$ 2,242,281	Total Accreditation			
Deferred Revenues	2,687,836	Professional Services			
Coronavirus Relief Credits	552,500	Covernance			
PPP Refundable Advance	626,065	Governance			
Deferred Compensation Payable	427,551	Total Program Services			
Total Liabilities	6,536,233	Supporting Services			
		General and Administrative			
Net Assets		Membership			
Without Donor Restrictions	12,915,263	Total Supporting Services			
With Donor Restrictions	24,909	Total Expenses			
Total Net Assets	12,940,172	Change in Net Assets			
Total Liabilities and Net Assets	\$ 19,476,405	Initial ADET Foundation Inc. Not Accest			
		initial ADE1 Foundation, Inc. Net Assets			
		Net Assets, Beginning of Year			

Net Assets, End of Year

See accompanying Notes to Consolidated Financial Statements`.

Without Donor Restrictions	With Donor Restrictions	Total
\$ 10,233,115	-	\$ 10,233,115
12,723,375	-	12,723,375
1,738,851	-	1,738,851
154,506	-	154,506
326,535	-	326,535
148,144		148,144
25,324,526	-	25,324,526
6.764.242	-	6.764.242
12,723,375		12,723,375
19,487,617	-	19,487,617
1,666,379	-	1,666,379
1,697,366		1,697,366
22,851,362	-	22,851,362
1,038,667	-	1,038,667
165,882		165,882
1,204,549		1,204,549
24,055,911		24,055,911
1,268,615	-	1,268,615
244,276	24,909	269,185
11,402,372		11,402,372
\$ 12,915,263	\$ 24,909	\$ 12,940,172

# **CONSOLIDATED STATEMENT OF FUNCTIONAL EXPENSES**

For the Year Ended September 30, 2020

	_	Program Services						Supporting Services					
_		Accreditation		Professional Services		Governance		Total Program Services		eneral and ministrative	Membership		То
Professional Fees	\$	13,379,799	\$	387,445	\$	90,891	\$	13,858,135	\$	97,651	\$	-	\$
Salaries and Related Expenses		2,922,808		811,401		1,041,210		4,775,419		494,659	15	50,019	
Travel		1,743,636		39,325		90,283		1,873,244		5,621		-	
Hosted Meeting		215,637		82,556		247,033		545,226		76,598		-	
Office Expense		199,988		61,353		35,212		296,553		25,122		7,619	
Occupancy		76,457		11,372		31,133		118,962		27,183		8,244	
Insurance		29,799		2,950		11,598		44,347		9,712		-	
Bank Fees		7,980		39,048		1,170		48,198		2,958		-	
Staff Development and Morale		36,358		27,461		10,402		74,221		13,842		-	
Membership Dues - Organizations		3,083		8,145		33,598		44,826		1,181		-	
Meeting Registration		794		7,464		-		8,258		-		-	
Marketing		262		101,933		-		102,195		-		-	
Volunteer Registration		99,519		201		2,656		102,376		16		-	
Individual Membership Dues		1,901		1,185		5,052		8,138		728		-	
Depreciation and Amortization		294,577		20,040		24,048		338,665		101,160		_	
Bad Debt Expense		99,053		12,699		15,239		126,991		37,932		-	
Coronavirus Relief Credits		331,832		42,543		51,051		425,426		127,074		-	
Miscellaneous		44,134		9,258		6,790		60,182		17,230		_	
Total Expenses	\$	19,487,617	\$	1,666,379	\$	1,697,366	\$	22,851,362	\$	1,038,667	\$16	65,882	\$

See accompanying Notes to Consolidated Financial Statements.

# otal Supporting Services Total 97,651 \$ 13,955,786 644,678 5,420,097 5,621 1,878,865 76,598 621,824 32,741 329,294 35,427 154,389 9,712 54,059 2,958 51,156 88,063 13,842 1,181 46,007 8,258 -102,195 -102,392 16 728 8,866 439,825 101,160 37,932 164,923 127,074 552,500 17,230 77,412 1,204,549 \$ 24,055,911

# CONSOLIDATED STATEMENT OF CASH FLOWS

For the Year Ended September 30, 2020

Cash Flows from Operating Activities	
Change in Net Assets	\$ 1,268,615
Adjustments to Reconcile Change in Net Assets to Net Cash Provided by Operating Activities	
Depreciation and Amortization	439,825
Investment Income	(304,287)
Loss on Disposal of Property and Equipment and Intangible Assets	55,104
(Increase) Decrease in Assets	
Accounts Receivable	1,349,899
Prepaid Expenses and Other Current Assets	665,069
Investments in Deferred Compensation	(58,312)
<u>Increase (Decrease) in Liabilities</u>	
Accounts Payable and Accrued Expenses	689,804
Deferred Revenues	(3,062,196)
Coronavirus Relief Credits	552,500
PPP Refundable Advance	626,065
Deferred Compensation Payable	 58,312
Net Cash Provided by Operating Activities	2,280,398
Cash Flows from Investing Activities	
Purchases of Property and Equipment and Intangible Assets	(164,099)
Proceeds from Redemptions/Sales of Investments	1,629,220
Purchases of Investments	 (1,667,769)
Net Cash Used in Investing Activities	 (202,648)
Net Increase in Cash and Cash Equivalents	2,077,750
Cash and Cash Equivalents, Beginning of	 5,844,584
Year (Including \$269,185 from the Foundation)	
Cash and Cash Equivalents, End of Year	\$ 7,922,334

See accompanying Notes to Consolidated Financial Statements.

# NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

September 30, 2020

# 1. Organization

Accreditation Board for Engineering and Technology, Inc. (ABET) was organized in 1932 and incorporated in 1963. ABET accredits applied science, computing, engineering, and technology programs at colleges and universities throughout the United States as well as internationally. ABET also conducts faculty improvement workshops. ABET is supported primarily by accreditation fees, donated accreditation services, and membership assessments.

ABET Foundation, Inc. (the Foundation), was organized and incorporated in 2008 to advance, promote, and support the charitable, educational, and scientific purposes of ABET, and to receive gifts and grants on ABET's behalf. The Foundation also provides consultation services to constituents globally.

# 2. Summary of Significant Accounting Policies

Principles of Consolidation

In April 2020, the Foundation requested a change in status from the Internal Revenue Service from a Type III to a Type I support organization. As part of this change, the Foundation amended its Articles of Incorporation and By-Laws to authorize ABET to appoint the Foundation's Board of Directors. Accordingly, ABET is considered to be a sole member with controlling and economic interest in the Foundation and consolidated financial statements for the year ended September 30, 2020, have been presented. The consolidated statement of activities includes \$269,185 to reflect the Foundation's net assets as of April 1, 2020 (the date of the change in status). In addition, the consolidated statement of cash flows includes \$269,185 of beginning cash and cash equivalents to reflect the Foundation's cash balance as of April 1, 2020.

The consolidated financial statements include the accounts of ABET and the Foundation, collectively, the Organization. Intercompany balances and transactions have been eliminated in consolidation. Although the Foundation reports on a calendar year-end basis, all accounts are consolidated as of September 30, 2020, to align with ABET's reporting period.

# Basis of Accounting

The accompanying consolidated financial statements are presented on the accrual basis of accounting. Consequently, revenue is recognized when earned and expenses when incurred.

# Use of Estimates

The preparation of consolidated financial statements in conformity with accounting principles generally accepted in the United States of America (U.S. GAAP) requires management to make estimates and assumptions that affect certain reported amounts and disclosures. Accordingly, actual results could differ from those estimates.

# Cash and Cash Equivalents

The Organization considers all highly-liquid investments with an initial maturity of three months or less, when purchased, to be cash equivalents.

# Investments

Investments are stated at fair value. The valuation of the investments is based upon quotations obtained from national securities exchanges. Where securities are not listed on an exchange, quotations are obtained from other published sources.

# Accounts Receivable

Accounts receivable are reported at their outstanding balances reduced by an allowance for doubtful accounts, if necessary.

Management periodically evaluates the adequacy of the allowance for doubtful accounts by considering the Organization's past receivables' loss experience, known and inherent risks in the accounts receivable population, adverse situations that may affect a client's ability to pay, and current economic conditions.

The allowance for doubtful accounts is increased by charges to bad debt expense and decreased by charge offs ofuncollectible accounts receivable balances. Accounts receivable are considered past due, and then charged off based on management's determination that they are uncollectible.

# Property and Equipment and Intangible Assets

Acquisitions of property and equipment in excess of \$2,500 are capitalized. Property and equipment are stated at cost, if purchased, or at fair market value at date of donation, if contributed. Depreciation is provided over the estimated useful lives of the assets on a straight-line basis. Expenditures and related betterments that extend the useful life of the asset are capitalized. Expenditures for maintenance and repairs, including planned major maintenance activities, are charged to expense as incurred.

Costs of developing database software have been capitalized. Amortization is provided over the estimated time the database will be utilized and commenced as the phases of the database became operational.

Intangible assets are stated at cost and amortized over the estimated useful lives of the assets on a straight-line basis.

# Certificate of Deposit - Restricted

ABET has pledged a \$200,000 certificate of deposit to collateralize its American Express credit cards.

# **Coronavirus Relief Credits**

During the year ended September 30, 2020, ABET granted coronavirus relief credits to members due to the difficult economic situation. The credits have been shown as an expense on the consolidated statement of activities and on the consolidated statement of financial position as a liability. The credits will be applied to the 2021 membership assessments.

# **Financial Statement Presentation**

The consolidated financial statements of the Organization have been prepared on the accrual basis of accounting and in accordance with U.S. generally accepted accounting principles (U.S. GAAP), which requires the Organization to report information regarding its financial position and activities according to the following net asset classifications.

### Net Assets Without Donor Restrictions: Net

assets that are not subject to donor-imposed restrictions and may be expended for any purpose in performing the primary objectives of the Organization. These net assets may be used at the discretion of the Organization's management and the Board of Directors.

### Net Assets With Donor Restrictions: Net

assets subject to stipulations imposed by donors and grantors. Some donor restrictions are temporary in nature; those restrictions will be met by actions of the Organization. Other donor restrictions are perpetual in nature, whereby the donor has stipulated the funds be maintained in perpetuity.

# Support and Revenues

Revenue from membership assessments is recognized over the period to which the assessments relate, and revenue from professional services is recognized when the related services are performed. Accreditation fees are recognized when the Organization releases its final reports. Membership assessments, professional services, and accreditation fees received in advance of the period in which they are earned are deferred to subsequent years and included in deferred revenues on the consolidated statement of financial position.

Unconditional contributions received without donor restrictions for the Organization's programs are recognized as support when the donor has made an unconditional promise to give. Unconditional contributions that are restricted by the donor are reported as increases in net assets with donor restrictions, depending on the existence and/or nature of the restriction. When the stipulated time restriction ends or the purpose of the restriction is met, net assets with donor restrictions are reclassified to net assets without donor restrictions and reported in the consolidated statement of activities as net assets released from restrictions. Conditional contributions are not recorded as revenue until the related conditions have been satisfied. Amounts received for conditional contributions are recorded as refundable advances until the conditions have been met.

# **Donated Services**

Donated services are recognized as contributions if the services (a) create or enhance nonfinancial assets or (b) require specialized skills, are performed by people with those skills, and would otherwise be purchased by the Organization.

# Income Taxes

Both ABET and the Foundation are exempt from income taxes under Section 501(c)(3) of the Internal Revenue Code (the Code). In addition, both have been determined by the Internal Revenue Service not to be private foundations within the meaning of Section 509(a) of the Code.

The Organization requires that a tax position be recognized or derecognized based on a "more-likely-than-not" threshold. This applies to positions taken or expected to be taken in a tax return. The Organization does not believe its consolidated financial statements include, or reflect, any uncertain tax positions.

ABET's and the Foundation's IRS Forms 990, Return of Organization Exempt from Income Tax, are subject to examination by federal and state taxing authorities generally for three years after filing.

# Functional Expense Allocation

The consolidated financial statements report certain categories of expenses that are attributed to more than one program or supporting function. Therefore, these expenses require allocation on a reasonable basis that is consistently applied. The expenses that are allocated include most operating costs that support various programs and functions. The basis of the allocations is direct costs, which allocates cost based on the department usage of them for program and supporting functions.

# Reclassifications

Certain prior year amounts have been reclassified for comparative purposes.

# 3. Adoption of Accounting Standards Update 2018-08

During the year ended September 30, 2020, the Organization adopted Financial Accounting Standards Board (FASB) Accounting Standards Update (ASU) 2018-08, Not-for-Profit Entities (Topic 958): Clarifying the Scope and the Accounting Guidance for Contributions Received and Contributions Made. The ASU provides additional guidance in (1) evaluating whether transactions should be accounted for as contributions (within the scope of ASC 958) or as exchange (reciprocal) transactions (subject to ASC 606); and (2) distinguishing between conditional and unconditional contributions. Management believes that the adoption of this ASU enhances the comparability of financial information among not-for-profit entities. This change in accounting principle was adopted on a modified prospective basis. The impact of adoption was not material to the consolidated financial statements.

# 4. Liquidity and Availability of Resources

The Organization's cash flows have seasonal variations due to the timing of accreditation fees, membership assessments, and professional services fees billing. The Organization manages its liquidity to meet general expenditures, liabilities, and other obligations as they become due.

As of September 30, 2020, the following financial assets and liquidity sources were available for general operating expenditures in the year ending September 30, 2021:

### Financial Assets

Cash and Cash Equivalents	\$7,922,334
Accounts Receivable	24,667
Investments Available for Operating Purposes	6,090,318
Less Amounts Restricted by Donors for Purpose	(24,909)
Total Financial Assets Available for General Operations	\$ 14,012,410

(continued)

# 5. Financial Risk

The Organization maintains its cash balances at certain financial institutions which, at times, may exceed federally insured limits. The Organization has not experienced any losses in such accounts and believes it is not exposed to any significant financial risk on cash.

The Organization invests in professionally managed portfolios that contain mutual funds and certificates of deposit. Such investments are exposed to various risks such as interest rate, market, and credit. Due to the level of risk associated with such investments and the level of uncertainty related to changes in the value of such investments, it is at least reasonably possible that changes in risks in the near term would materially affect investment balances and the amount reported in the consolidated financial statements.

# 6. Fair Value Measurements

The fair value hierarchy prioritizes the inputs to valuation techniques used to measure fair value into three broad levels as follows:

Level 1 - inputs to the valuation methodology are quoted prices (unadjusted) for identical assets or liabilities in active markets (examples include mutual funds);

Level 2 - inputs to the valuation methodology include quoted prices for similar assets and liabilities in active markets, and inputs that are observable for the asset or liability other than quoted prices, either directly or indirectly, including inputs in markets that are not considered to be active (examples include corporate or municipal bonds and certificates of deposit);

Level 3 - inputs to the valuation methodology are unobservable and significant to the fair value measurement. The inputs into the determination of fair value require significant management judgment (examples include certain private equity securities and split interest agreements).

Categorization within the valuation hierarchy is based upon the lowest input that is significant to the fair value measurement. The following presents the Organization's assets and liabilities measured at fair value as of September 30, 2020:

	1	Fair Value	Level 1			Level 2	Level 3		
Certificates of Deposit	\$	892,925	\$	_	\$	892,925	\$	_	
Certificates of Deposit - Restricted		200,000		_		200,000		_	
Mutual Funds - Alternatives		439,123		439,023		_		_	
Mutual Funds - Fixed Incomes		1,849,896		1,849,896		_		_	
Mutual Funds - Equities		755,011		755,011		_		_	
Mutual Funds -		2,357,898		2,357,898		—		—	
Exchange Traded Funds	-	6,494,853	-	5,401,828	_	1,092,925			
Investment in Deferred Compensation - Mutual Funds	_	427,551	_	427,551	_		_		
Total Assets at Fair Value	\$	6,922,404	\$	5,829,379	\$	1,092,925	\$		
Deferred Compensation Payable	\$	427,551	\$	427,551	\$		\$		
Total Liabilities at Fair Value	\$	427,551	\$	427,551	\$		\$		

The Organization's Level 2 investments are valued based on readily available pricing sources for comparable investments.

# 7. Property and Equipment and Intangible Assets - Net

The major components of property and equipment and intangible assets are as follows:

Land	\$ 36
Building	2,85
Learning Center	1,05
Information Management Systems	2,01
Equipment	64
Furniture and Fixtures	25
Computer Software	24
Intangible Assets	7
Subtotal	7,51
Less Accumulated Depreciation and Amortization	(3,01
Property and Equipment and Intangible Assets - Net	\$ 4,50

# 8. Donated Services

The Organization records donated services for accreditation services rendered by the volunteer commissioners and program evaluators. During the year ended September 30, 2020, the Organization recorded approximately \$12,723,000 of donated services and accreditation expense in the consolidated statement of activities, which represents approximately 87,000 hours of donated time.

# 9. Net Assets with Donor Restrictions

As of September 30, 2020, the Organization's net assets with donor restrictions were available for the following purposes:

With Donor Restrictions	\$ 24,90
Total Net Assets	
Learning Center	 2,25
Science Screen Reporting	\$ 22,65

# 10. Retirement Plan

ABET has a 403(b) retirement plan (the Plan) open to all employees. Employees are eligible for matching contributions after six months of employment, but can elect to defer their wages immediately. The Organization's discretionary matching contribution to the Plan was approximately \$288,000 for the year ended September 30, 2020.

# 11. Deferred Compensation Plan

ABET has a nonqualified 457(b) deferred compensation plan (the 457 Plan) for certain highly compensated employees. The 457 Plan requires that the Organization establish and maintain a book entry account on behalf of the employees for participant salary deferrals and investment experience related to the 457 Plan. Employer contributions are not permitted. The Organization is not liable for any specific investment success nor is it required to restore any loss of principal that may occur due to market conditions. Under current law, such funds remain the assets of the Organization and, as such, are subject to the creditors of the Organization.

# 12. Employment Agreement

In March of 2015, the Organization entered into an employment agreement with its Executive Director (ED). If the ED is terminated for any reason other than cause, as defined in the employment agreement, the Organization will pay severance based on the terms of the employment agreement.

# 13. PPP Refundable Advance

During 2020, ABET received a Small Business Administration (SBA) loan under the Paycheck Protection Program (PPP) in the amount of \$626,065. PPP provides cash-flow assistance through 100% federally guaranteed loans to eligible recipients to maintain payroll during the COVID-19 public health emergency and cover certain other expenses. If ABET maintains its workforce and meets certain requirements, up to 100% of the loan may be forgiven by the SBA. No more than 40% of the forgiven amount may be for non-payroll costs. Loans under PPP have an interest rate of 1% and may negotiate to a five-year maturity date, if not forgiven. Management believes ABET will meet the criteria for loan forgiveness. However, at September 30, 2020, ABET is accounting for this SBA loan as a conditional contribution since repayment has not yet been waived, and as such, the loan proceeds are included in PPP refundable advance on the consolidated statement of financial position.

S: 60,000 58,134 56,795 19,964 43,702 54,947 47,542 <u>77,683</u> 18,767 <u>18,740</u> 00,027

59 50 09

# 14. Commitments and Contingencies

The spread of COVID-19 (coronavirus disease) has had a disruptive impact on the daily life and operations of individuals, businesses, and nonprofits around the world. There is uncertainty about financial and economic impacts in all sectors of the economy. The financial markets have experienced significant volatility, and this may continue for an extended period of time. In light of these circumstances, management continues to assess how best to adapt to changed circumstances.

During the year ended September 30, 2020, ABET entered into a contract with facilities in connection with future meetings and events which were later cancelled as a result of COVID-19. Estimated cancellation fees of \$200,000 were included in accounts payable and accrued expenses in the consolidated statement of financial position.

# 15. Subsequent Events

The Organization has evaluated subsequent events through February 11, 2021, the date on which the consolidated financial statements were available to be issued.



The Board of Directors Accreditation Board for Engineering and Technology, Inc. and ABET Foundation, Inc. Baltimore, Maryland

We have audited the accompanying consolidated financial statements of Accreditation Board for Engineering and Technology, Inc. (ABET) and ABET Foundation, Inc. (the Foundation) as of and for the year ended September 30, 2020, and our report thereon dated February 11, 2021, which expressed an unmodified opinion on those consolidated financial statements, appears on page 3. Our audit was conducted for the purpose of forming an opinion on the consolidated financial statements as a whole. The consolidating statement of financial position and consolidating statement of activities are presented for purposes of additional analysis of the consolidated financial statements rather than to present the financial position, results of operations, and cash flows of the individual organizations, and are not required parts of the consolidated financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the consolidated financial statements. The consolidating information has been subjected to the auditing procedures applied in the audit of the consolidated financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the consolidated financial statements or to the consolidated financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the consolidating information is fairly stated in all material respects in relation to the consolidated financial statements as a whole.

Washington, D.C. February 11, 2021

> COUNCILOR, BUCHANAN & MITCHELL, P.C. - CPAs AND BUSINESS ADVISORS www.cbmcpa.com | (F) 301.986.0432

7910 WOODMONT AVENUE SUITE 500 BETHESDA, MD 20814 (T) 301.986.0600

1150 18<sup>TH</sup> STREET, NW SUITE 550 WASHINGTON, DC 20036 (T) 202.822.0717

# Independent Auditors' Report on Consolidating Information

Councilor Buchanan + Mitchell, P.C.

Certified Public Accountants



# **CONSOLIDATING STATEMENT OF FINANCIAL POSITION**

September 30, 2020

	ABET		Fou	ndation	Eliminations		Total
Assets							
Assets							
Cash and Cash Equivalents	\$	7,649,718	\$	272,616	\$	- \$	7,922,334
Accounts Receivable, Less Allowance for Doubtful Accounts of Approximately \$387,000		30,008		1,000		(6,341)	24,667
Prepaid Expenses and Other Current Assets		106,952		21		-	106,973
Investments		6,494,853		-		-	6,494,853
Property and Equipment and Intangible Assets – Net		4,500,027		-		-	4,500,027
Investment in Deferred Compensation		427,551		-			427,551
Total Assets	\$	19,209,109	\$	273,637	\$	(6,341) \$	19,476,405
Liabilities and Net Assets							
Liabilities							
Accounts Payable and Accrued Expenses	\$	2,238,410	\$	10,212	\$	(6,341) \$	2,242,281
Deferred Revenues		2,687,836		-		-	2,687,836
Coronavirus Relief Credits		552,500		-		-	552,500
PPP Refundable Advance		626,065		-		-	626,065
Deferred Compensation Payable		427,551		-		-	427,551
Total Liabilities		6,532,362		10,212		(6,341)	6,536,233
Net Assets							
Without Donor Restrictions		12,676,747		238,516		-	12,915,263
With Donor Restrictions		_		24,909		-	24,909
Total Net Assets		12,676,747		263,425		-	12,940,172
Total Liabilities and Net Assets	\$	19,209,109	\$	273,637	\$	(6,341) \$	19,476,405

# **CONSOLIDATING STATEMENT OF ACTIVITIES**

For the Year Ended September 30, 2020

	 ABET	_	Foundation		Elim	inations	То	tal
Support and Revenues								
Accreditation Fees	\$ 10,233,115	\$		-	\$	-	\$	10,233,115
Donated Services	12,723,375			-		-		12,723,375
Membership Assessments	1,738,851			-		-		1,738,851
Professional Service Revenues	154,720			-		(214)		154,506
Investment Income (Including Gains of Approximately \$161,000)	326,535			-		-		326,535
Other Revenue	 148,144		·	-				148,144
Total Support and Revenues	25,324,740			-		(214)		25,324,526

### Expenses

Program Services	
Accreditation	6,764,242
Accreditation - Donated Services	12,723,375
Total Accreditation	19,487,617
Professional Services	1,666,379
Governance	1,697,366
Total Program Services	22,851,362
Supporting Services	
General and Administrative	1,033,121
Membership	165,882
Total Supporting Services	1,199,003
Total Expenses	24,050,365
Change in Net Assets	1,274,375
Initial ABET Foundation, Inc. Net Assets	-
Net Assets, Beginning of Year	11,402,372
Net Assets, End of Year	\$ 12,676,747

-	-	6,764,242
 -		12,723,375
-	-	19,487,617
-	-	1,666,379
 -		1,697,366
-	-	22,851,362
5,760	(214)	1,038,667
 		165,882
 5,760	(214)	1,204,549
 5,760	(214)	24,055,911
(5,760)	-	1,268,615
269,185	-	269,185
 		11,402,372
\$ 263,425	\$	\$ 12,940,172



more sustainable — and to develop solutions that benefit the lives of all people. But in order to do this in a more impactful way, our workforce must be comprised of people from diverse backgrounds, perspectives and personal experiences.

Supporting diversity, equity, inclusion and accessibility benefits all people, and we all must work collectively to be part of the solution.

# WHY WE NEED TO ADDRESS INEQUITIES IN STEM EDUCATION

By Michael Milligan, ABET Executive Director and CEO

# This article was first published July 23, 2020 on Medium.

Human inequity persists in almost every aspect of our daily lives. History is plagued with discrimination and systemic racism, which has been highlighted by mass protests in recent months following the recent killing of George Floyd in Minneapolis, Minnesota. We can do better to improve the treatment and lives of all peoples of the world, and the protests and discourse that followed give me hope that we will do better. People across the U.S. and around the world are now taking action and calling for change.

All components of society must take steps to prioritize equity and justice, and education particularly STEM education — is one of the most critical areas to improve. For example, in the U.S., less than a third of Black students attain a bachelor's degree or higher, compared to almost half of white students. While there has been some progress in recent years, much improvement can be made in the number of technical degrees earned by underrepresented groups.

# The American Society for Engineering

Education (ASEE), an ABET member society, annually publishes data on various higher education components for engineering and engineering technology programs — including demographic data on enrollment and degrees awarded. In 2018, there were over 130,000 bachelor's degrees in engineering awarded in the U.S. Of those, they found that only 11.4 percent went to Hispanic students and 4.2 percent to Black/African American students. Of the over 13,600 engineering technology bachelor's degrees awarded in 2018, 9.4 percent went to Hispanic students and 8 percent to Black/African American students. According to the National Center for Education Statistics, in 2017, just 9 percent of computer science degrees were earned by Black college students, and only 10 percent by Hispanic students. When looking at these numbers, it's clear that minority populations continue to be underrepresented in STEM disciplines in the U.S.

STEM professionals play a critical role in designing solutions to make the world a better place — one that is safer, more efficient and

As the accrediting body for over 4,100 higher education programs in engineering, engineering technology, computing and the applied and natural sciences, ABET has an opportunity to influence university and college students about the importance of ensuring a diverse, equitable and inclusive learning environment, and why these principles are essential in preparing students to enter a global workforce. In recent decades, we have put forth efforts to promote diversity and inclusion in STEM higher education. For example, in 2005, we established the President's Award for Diversity, later renamed the Claire L. Felbinger Award for Diversity and Inclusion after the board



member who led the first committee to formally bring the issue of diversity to the attention of the ABET Board of Directors. Felbinger helped launch initiatives to consider and publish ABET Expert diversity statistics, issue a formal policy on diversity, and create the award that was renamed after her passing. Her efforts set in motion the work that is still being done today.

The challenges highlighted in recent weeks are not isolated to one group or one community they seep into every aspect of society. While we routinely see politicization of contentious issues, it's important to understand that antiracism and justice are not political issues; they are human rights issues. Supporting diversity, equity, inclusion and accessibility benefits all people, and we all must work collectively to be part of the solution.

Last year, we established the Inclusion, Diversity and Equity Advisory (IDEA) Council to promote and develop methods and metrics for improving inclusivity, diversity and equity within ABET — its activities, its volunteer base and its accredited programs in proactive, tangible and impactful ways.

We would like your feedback and examples of actions you and your constituencies are implementing. What more can we do to drive change? Please email your thoughts and suggestions to ABET's IDEA Council (IDEA@abet.org). Together, we will build a better world for all.

# STATISTICS: 2019-20 VOLUNTEER CHARACTERISTICS

\*Data are self-reported and current as of October 1, 2020.







# OUR VOLUNTEER EXPERTS MAKE THE DIFFERENCE

ABET accreditation would not be possible without our ABET Experts — professionals from industry, academia and government dedicated to contributing to their professions through the continuous improvement of the quality of STEM education.

We rely on our experts to evaluate program materials, conduct program reviews and participate in accreditation decisions. Most begin their service as Program Evaluators, or PEVs, who do the hands-on work of accrediting programs around the world. Those who seek leadership roles may be promoted into the ranks of our Commissions, serving as Team Chairs responsible for leading teams of evaluators.

Thousands of STEM professionals devote their time and expertise because they care deeply about the quality of technical education and believe the accreditation process enhances both individual programs and the professions. They are essential contributors who are instrumental in ensuring graduates of these programs are prepared to enter the global workforce.

We are sincerely thankful for their dedication and service.

ABET is like a family — a family of educators helping each other. All the PEVs and Team Chairs contribute to other people's learning and in the process, they themselves learn something new.

# 2019-20 BOARD OF DIRECTORS

# 2019-20 BOARD OF DELEGATES

#### The ABET **Board of Directors** is

the governing body responsible for strategic planning, financial oversight and managing the external relationships of our organization. It is also the final review body for appeal of decisions regarding accreditation actions for a specific program. Our Board of Directors is comprised of 13 members: President, President-Elect, Past President, Secretary, Treasurer, four Area Directors, two At-Large Directors, one Public Director and the Executive Director/CEO (non-voting). The Board of Directors is advised by four board-level councils: Academic, Industry, Inclusion, Diversity and Equity and Global.

# Officers

#### President

David P. Kelly, M.S., MBA InnovaSea

### **Past President**

Mary Leigh Wolfe, Ph.D. Virginia Polytechnic Institute and State University

#### President-Elect

Dianne Chong, Ph.D. The Boeing Company (Retired)

### Secretary

Gillian Bond, Ph.D. New Mexico Institute of Mining & Technology

#### Treasurer

David L. Whitman, Ph.D., P.E. Professor Emeritus, University of Wyoming

# Directors

# **Applied and Natural Science** Area Director Hamid Fonooni, Ph.D.

University of California – Davis

**Computing Area Director** Andrew T. Phillips, Ph.D. United States Naval Academy

### **Engineering Area Director**

S.K. Ramesh, Ph.D. California State University, Northridge

#### Engineering Technology Area Director

Larraine A. Kapka, M.S., P.E. Professor Emeritus, Sinclair Community College

# **At-Large Director**

Kristen P. Constant, Ph.D. Iowa State University

#### **At-Large Director**

Janice M. Zdankus, MBA Hewlett Packard Enterprise

**Public Director** Andrea Koepke\*, Ph.D.

### Executive Director and Chief Executive Officer Michael K.J. Milligan, Ph.D., P.E., CAE ABET

# The ABET **Board of Delegates** is

responsible for approving accreditation policies and procedures, general criteria and the organization of our accreditation commissions. Our Board of Delegates is comprised of 1-3 representatives from each of ABET's member societies. The number of seats on the Board of Delegates is determined by the number of accredited programs for which the society is responsible. The President-Elect serves as a non-voting Chair of the Board of Delegates. The Board of Delegates is advised by the Accreditation Council.

# Chair

Dianne Chong, Ph.D. The Boeing Company (Retired)

#### AAEES – American Academy of Environmental Engineers and Scientists

John H. Koon, Ph.D. Georgia Institute of Technology

#### AAMI – Association for the Advancement of Medical Instrumentation

Steven J. Yelton, P.E., CHTM Cincinnati State Technical and Community College

#### ACerS/NICE - The American Ceramic Society's National Institute of Ceramic Engineers

Alexis Clare, Ph.D. New York State College of Ceramics at Alfred University

AIAA – American Institute of Aeronautics and Astronautics Brett Anderson, MBA, P.E. The Boeing Company

### AIChE – American Institute of Chemical Engineers

Laura Dietsche, Ph.D., P.E. Dow Chemical Company

Thomas R. Hanley, Ph.D. Auburn University

# AIHA – American Industrial Hygiene Association Lawrence W. Whitehead, Ph.D., CIH, FAIHA University of Texas-Houston

ANS – American Nuclear Society Stanlev H. Levinson, Ph.D., P.E. Framatome, Inc. (retired)

ASABE – American Society of Agricultural and Biological Engineers Van C. Kelley, Ph.D., P.E. South Dakota State University

# ASCE – American Society of Civil Engineers

Allen C. Estes, Ph.D., MBA, P.E. California Polytechnic State University

David Hornbeck, Ph.D., P.E Professor Emeritus, The Southern Polytechnic College of Engineering and Engineering Technology at Kennesaw State University

Paul Mlakar, Ph.D., P.E., F.ASCE U.S. Army Engineer Research and Development Center

.....

Accreditation isn't the only end result... Education is an infinite task. You always keep evolving, evolving, evolving,

- Humberto Gomez



# ASEE – American Society

for Engineering Education Walter W. Buchanan, Ph.D., J.D., P.E. Texas A&M University

Thomas F. Conry, Ph.D., P.E. Professor Emeritus, University of Illinois

# ASHRAE – American Society of Heating, Refrigerating, and Air-Conditioning Engineers

Dennis O'Neal, Ph.D. Baylor University

# ASME - American Society of Mechanical Engineers

Mohammad Dehghani, Ph.D., P.E. Missouri University of Science and Technology

Thomas Singer, M.A. Sinclair Community College

William J. Wepfer, Ph.D. Professor Emeritus, Georgia Institute of Technology

# **2019-20 AREA DELEGATIONS**

### ASSP – American Society of Safety Professionals

Christopher A. Janicak, Ph.D. Indiana University of Pennsylvania

AWS – American Welding Society Jeff Hufsey

# BMES – Biomedical Engineering Society

Gail Baura, Ph.D. Loyola University Chicago

John D. Gassert, Ph.D., P.E Professor Emeritus, Milwaukee School of Engineering

#### CMAA – Construction Management Association of America

Chris Payne, P.E., CCM MBP (McDonough Bolyard Peck)

# CSAB

Kenneth E. Martin, Ph.D. Professor and Founding Director Emeritus, University of North Florida

Barbara Price, Ph.D. (Secretary) Georgia Southern University

Donna Reese\*, Ph.D. Professor Emeritus, Mississippi State University

Stanley Thomas\*, Ph.D. Wake Forest University

# IEEE - Institute of Electrical and Electronics Engineers

Stephen M. Phillips, Ph.D., P.E. Arizona State University

John L. Vian, Ph.D., P.E. The Boeing Company

Ece Yaprak, Ph.D. Wayne State University

# IFMA - International Facility Management Association Regina Ford Cahill\*, M.S.

Pratt Institute Diane Levine\*, MCR

IFMA Foundation

# Systems Engineers

Kirk Lindstrom, MBA, P.E. Salt Lake County

Jessica (Matson) Oswalt, Ph.D., P.E. Tennesee Technological University

INCOSE – International Council on Systems Engineering Phillip J. Brown, M.S., P.E. Systems Engineering Associates

# ISA – International Society

<mark>of Automation</mark> Robert P. Kosar Grand Isle Group

# MRS - Materials Research Society Todd Hufnagel\*

Steven M. Yalisove\*, Ph.D. University of Michigan

### NCEES – National Council of Examiners for Engineering and Surveying Michelle Rambo-Roddenberry,

Ph.D., P.E., F.ASCE FAMU - FSU College of Engineering

NSPE – National Society of Professional Engineers Jon D. Nelson, P.E. Tetra Tech, Inc.

NSPS – National Society of Professional Surveyors Robert Schmidt, M.S.

SAE International Daniel Skurski, M.S.

# SFPE – Society of Fire Protection Engineers

Virginia Charter\*, Ph.D., P.E. Oklahoma State University

Louis Guerrazzi\* Society of Fire Protection Engineers

# SME

Ron Bennett, Ph.D., MBA. University of St. Thomas, Saint Paul

# SME-AIME – Society for Mining,

Metallurgy, and Exploration Richard Sweigard, Ph.D. University of Memphis

# SNAME – Society of Naval

Architects and Marine Engineers Carolyn Judge\* , Ph.D. United States Naval Academy

Paul Roden\*, M.S., P.E. Fairbanks Morse Engine, Inc.

# SPE – Society of

Petroleum Engineers Lloyd Heinze, Ph.D., MBA, P.E. Texas Tech University

# SPIE – The International Society for Optics and Photonics

Scott W. Teare, Ph.D. New Mexico Institute of Mining and Technology

SWE – Society of Women Engineers Janet Brelin-Fornari, Ph.D, P.E. Grand Canyon University

TMS – The Minerals, Metals, and Materials Society Thomas R. Bieler, Ph.D. Michigan State University

WEPAN – Women in Engineering ProActive Network Deborah Trytten, Ph.D. University of Oklahoma The four Area Delegations, which are aligned with the curricular areas of our commissions, are responsible for approving program-specific accreditation criteria and selecting members of the accreditation commissions, as well as assigning programs to

member societies within their areas. Seats on each Area Delegation are apportioned based on the number of accredited programs for which a society serves as "lead" within the relevant accreditation commission. Each Area Delegation is responsible for selecting an Area Director to serve on the ABET Board of Directors. The individuals selected also serve as non-voting chairs of their

# Applied and Natural Sciences Area Delegation

Chair Hamid Fonooni, Ph.D.

respective Delegations.

# Members

John H. Koon, Ph.D. (Secretary) AAEES

Lawrence W. Whitehead, Ph.D., CIH, FAIHA AIHA

Gilbert Brown, Ph.D. ANS

David Hornbeck, Ph.D., P.E. ASCE

Christopher A. Janicak, Ph.D. ASSP

Chris Payne, P.E., CCM CMAA

Regina Ford Cahill\*, M.S. IFMA

Diane Levine\*, MCR IFMA George Murge NCEES

Tom Roberts, NSPE

Steve Frank\*, NSPS

Jack A. Walker NSPS

C. Dale Elifrits SME-AIME

Computing Delegation

# Chair

also serve Andrew T. Phi

# Members

Kenneth E. Ma CSAB

Barbara Price CSAB Donna Reese\*

CSAB Stanley Thoma CSAB

# Engineerin Area Delea

<mark>Chair</mark> S. K. Ramesh,

# Members

John H. Koon, AAEES Alexis Clare, P

ACerS Brett Anderson

Laura Dietsch AIChE

l, Ph.D., P.E.	Thomas R. Hanley, Ph.D. AIChE	
P.E.	Stanley H. Levinson, Ph.D., P.E. ANS	
Ph.D.	Van C. Kelley, Ph.D., P.E. ASABE	
r*, P.L.S.	Peter Carrato*, Ph.D. ASCE	
s*, Ph.D.	David Hornbeck*, Ph.D., P.E. ASCE	
g Area	Allen C. Estes, Ph.D., P.E., MBA ASCE	
1	Paul Mlakar, Ph.D., P.E., F.ASCE ASCE	
llips, Ph.D.	Thomas F. Conry, Ph.D., P.E. ASEE	
artin, Ph.D.	Dennis O'Neal, Ph.D., P.E. ASHRAE	
, Ph.D.	Mohammad M. Dehghani, Ph.D., P.E. ASME	
, Ph.D.	Mary Kasarda, Ph.D. ASME	
as*, Ph.D.	William J. Wepfer, Ph.D. ASME	
q	Jeff Hufsey AWS	
gation	Gail Baura, Ph.D. BMES	
Ph.D.	John D. Gassert, Ph.D., P.E. BMES	
Ph.D.	Donna Reese*, Ph.D. CSAB	
Ph.D.	Stanley Thomas*, Ph.D. CSAB	
n, MBA, P.E.	Stephen M. Phillips, Ph.D., P.E. IEEE	
e, Ph.D., P.E.	Diane T. Rover, Ph.D. IEEE	
	John L. Vian, Ph.D., P.E. IEEE	

# **2019-20 ACCREDITATION COUNCIL**

Todd Hufnagel\* MRS

Steven Yalisove\*, Ph.D. MRS

Jon D. Nelson, P.E. NSPE

Robert Schmidt, M.S., L.S. NSPS

Daniel Skurski, M.S. SAE International

Louis Guerrazzi\* SFPE

Victoria Valentine\*, P.E. SFPE

Ronald Bennett, Ph.D., MBA SME

Richard Sweigard, Ph.D. (Secretary) SME-AIME

Carolyn Judge\*, Ph.D. SNAME

Paul Roden\*, M.S., P.E. SNAME

Lloyd Heinze, Ph.D., MBA, P.E. SPE

Scott W. Teare, Ph.D. SPIE

Janet Brelin-Fornari, Ph.D., P.E. SWE

Thomas R. Bieler, Ph.D. TMS

Deborah Trytten, Ph.D. WEPAN Engineering Technology Area Delegation

Chair

Larraine A. Kapka, M.S., P.E.

# Members

John H. Koon, Ph.D. AAEES

Steven J. Yelton, P.E., CHTM AAMI

Alexis Clare, Ph.D. ACerS

Brett Anderson, MBA, P.E. AIAA

Thomas R. Hanley, Ph.D. AIChE

Stanley H. Levinson, Ph.D., P.E. ANS

Thomas Brumm\*, Ph.D. ASABE

Robert Freeland\*, Ph.D. ASABE

Sylvester A. Kalevela, Ph.D., P.E. ASCE

David Hornbeck, Ph.D., P.E. (Secretary) ASCE

Walter Buchanan, Ph.D., J.D., P.E. ASEE

Dennis O'Neal, Ph.D., P.E. ASHRAE

Charles G. Drake, M.S., P.E. ASME

Thomas Singer, M.A. ASME Jeff Hufsey

AWS

Andrea Rutledge, MFA CMAA

Barbara Price, Ph.D. CSAB

Mary Marchegiano, M.S. IEEE

Ece Yaprak, Ph.D. IEEE

Kirk Lindstrom, MBA, P.E. IISE

Robert P. Kosar ISA

George Murgel, Ph.D., P.E. NCEES

Tom Roberts, P.E. NSPE

Robert Schmidt, M.S., L.S. NSPS

Daniel Skurski, M.S. SAE International

Virginia Charter, Ph.D., P.E. SFPE

Ismail Fidan, Ph.D. SME

C. Dale Elifrits, Ph.D. SME-AIME

Carolyn Judge\*, Ph.D. SNAME

Paul Roden\*, M.S., P.E. SNAME

Scott W. Teare, Ph.D. SPIE

Thomas R. Bieler, Ph.D. TMS Our Accreditation Council (AC) formulates and recommends to our leadership, policies and procedures regarding accreditation activities. Its mission is to improve processes and promote uniformity across the Accreditation Commissions.

# Chair

Bret M. Clausen, CIH, CSP, CHMM, ARM CH2M Hill Constructors

Applied and Natural Science Accreditation Commission

# Chair Alice Greife, Ph.D., CIH, FAIHA University of Central Missouri

# Chair-Elect

Jason G. Racette, P.L.S. Green Seal Environmental, Inc.

# Past Chair

J. Torey Nalbone, Ph.D., CIH The University of Texas at Tyler

**Staff Liaison** Amanda Reid, J.D.

# **Computing Accreditation Commission**

Chair Ronald P. Doyle, Ph.D. Broadcom

# Chair-Elect Cary Laxer, Ph.D.

Rose-Hulman Institute of Technology

# Past Chair

John L. Schnase, Ph.D. NASA Goddard Space Flight Center

Staff Liaison Harold C. Grossman, Ph.D.

\*Served a partial term.

# **Engineering Accreditation Commission**

# Chair

Jeffrey W. Fergus, Ph.D. Auburn University

# Chair-Elect

David Binning, P.E. George Mason University

# Past Chair

Jeffrey R. Keaton, Ph.D., P.E. Wood Environment & Infrastructure Solutions Americas

# Staff Liaisons

M. Dayne Aldridge, Sc.D., P.E.

Douglas R. Bowman, Ph.D., P.E.

Susan E. Conry, Ph.D.

Winston F. Erevelles, Ph.D.

# Engineering Technology Accreditation Commission

# Chair

Thomas M. Hall, Ed.D. Northwestern State University of Louisiana

# Chair-Elect

Scott Danielson, Ph.D. Arizona State University

# Past Chair

James A. Lookadoo, Ph.D. Professor Emeritus, Pittsburg State University

Staff Liaison Frank Hart, P.E., P.S.

# ABET

Staff Liaisons Joseph L. Sussman, Ph.D., F.ASME Jane Emmet, M.A.T. Ellen Stokes

# 2019-20 ACADEMIC **ADVISORY COUNCIL**

The Academic Advisory Council (AAC) provides our leadership with access to academic viewpoints on issues of accreditation involving applied and natural science, computing, engineering and engineering technology education.

It also guides our organization in matters affecting the relevant professions, reactions to proposed programs, procedures and policies as they relate to the education sector of our constituencies. The AAC also works as a communication channel between us and the academic community.

Through increased participation at all levels of our organization, AAC members develop and implement mechanisms to engage diverse audiences of the academic community in our accreditation activities.

# Chair

Jeffrey L. Ray, Ph.D., F.ASEE Western Carolina University

### Council Members

Emily L. Allen, Ph.D. California State University, Los Angeles

Kenneth S. Ball, Ph.D., P.E. George Mason University

Keith Bowman, Ph.D. University of Maryland - Baltimore County

Ken Burbank, Ph.D. Purdue University

Charles Isbell, Ph.D. Georgia Institute of Technology Keith V. Johnson, Ph.D. East Tennessee State University

Javier A. Kypuros, Ph.D. University of Texas at Tyler

Cynthia Paschal, Ph.D. Vanderbilt University

Jaime Bonilla Rios, Ph.D. Tecnológico de Monterrey, Mexico

David Tomasko, Ph.D. The Ohio State University

Cecilia Alexandra Paredes Verduga, Ph.D. ESPOL

James Zhang, Ph.D. Kettering University

### Staff Liaison

Joseph L. Sussman, Ph.D., F.ASME

### .....

A lot of schools prepare students for their first job, but not for their tenth job. That's where ABET and the commissions play a role — in lifelong learning. You design your criteria to help students with life learning education so that they can continue getting the skills they need.

- Rajendra K. Raj

# 2019-20 GLOBAL COUNCIL

The Global Council (GC) advises our Board on policies and procedures to enhance our global presence. This includes participation in new mutual recognition agreements (MRAs), memoranda of understanding (MOUs) and substantial equivalency recognition of educational programs outside of the U.S.

# Chair

Jamie Rogers, Ph.D., P.E. University of Texas at Arlington

# **Council Members**

Gillian Bond, Ph.D. Professor Emeritus, New Mexico Institute of Mining & Technology

Phillip Brown, M.S., P.E. Systems Engineering Associates

Walter Buchanan, Ph.D., J.D., P.E. Texas A&M University

Alexis Clare, Ph.D. New York State College of Ceramics at Alfred University

Hamid Fonooni, Ph.D. University of California - Davis

Louis Guerrazzi, M.S. Society of Fire Protection Engineers

David K. Holger, Ph.D. Professor Emeritus, Iowa State University

Lawrence G. Jones, Ph.D., F. ABET, F.CSAB Software Engineering Institute (SEI) of Carnegie Mellon University (Retired)

Andrea Koepke, Ph.D. American Osteopathic Association

Kenneth E. Martin, Ph.D. Professor and Founding Director Emeritus, University of North Florida

Stan Thomas, Ph.D. Wake Forest University

Ece Yaprak, Ph.D. Wayne State University

ABET Staff Liaison Daniela Iacona

# 2019-20 INCLUSION, DIVERSITY AND EQUITY ADVISORY COUNCIL

Reporting to the Board of Directors, our Inclusion, Diversity and Equity Advisory Council (IDEAC) promotes and develops evaluation methods and metrics for improving inclusivity, diversity and equity within ABET, its activities, its volunteer base and its accredited programs consistent with ABET Principles of Diversity and Inclusion.

# Chair

Mary Leigh Wolfe, Ph.D. Virginia Polytechnic Institute and State University

# **Council Members**

Nicole Chestang, MBA Nicole Chestang & Assoc., LLC

Imelda Cossette Edmonds Community College

Haidar M. Harmanani, Ph.D. Lebanese American University

John H. Koon, Ph.D. Georgia Institute of Technology

Richard Olawoyin, Ph.D., CEP, CSP Oakland University

S. K. Ramesh, Ph.D. California State University, Northridge

Angela Trego, P.E. Practical Aeronautics

# Staff Liaison

James Ingram II

# 2019-20 INDUSTRY ADVISORY COUNCIL

The Industry Advisory Council (IAC) provides ABET leadership with the perspectives of major employers on accreditation policy issues, works with company leaders to develop channels for Program Evaluator recruitment from industry and acts as an advocate for the meaning and value of ABET accreditation to major technical employers and other key ABET stakeholders.

# Chair

Jeffrey Abell, Ph.D., P.E. General Motors Company

# Vice-Chair

Richard Hope AECOM

# Past-Chair

Ronald Hinn Jr. PetroSkills

# **Council Members**

Naguib Attia, Ph.D. IBM

Suzanne M. Beckstoffer, MBA Newport News Shipbuilding

Edward Calusinski, M.S. Discover Financial Services

Amine Chigani, Ph.D. Amazon Web Services

Michael Creed, Ph.D. McKim & Creed

# .....

We all go to disciplinary conferences, but on an ABET team, you got all these other engineers who really care about education, and you sit around and talk about the program you're visiting and engineering education in general...it's great fun.

Wahid Hermina, Ph.D. Sandia National Laboratories

Lou Gritzo FM Global

Navid Jam, M.S. Mandiant, a FireEye Company

Rebecca Jones, FCMAA SafeworkCM

Larry McCallister, Ph.D., P.E., PMP, SES, F.ASCE US Army Corps of Engineers

Jon D. Ness, P.E. RFA Engineering

Anand Raman, Ph.D. Climax Molybdenum

Matt Tegerdine, MBA Verizon

Anita Yadav Caterpillar Inc.

Janice M. Zdankus, MBA Hewlett Packard Enterprise

### Staff Liaison

James Ingram II

Joseph L. Sussman, Ph.D., F.ASME

- Leonard Bohmann

# 2019-20 APPLIED AND NATURAL SCIENCE ACCREDITATION COMMISSION

# Officers

# Chair

Alice Greife, Ph.D., CIH, FAIHA University of Central Missouri

# Chair-Elect

Jason G. Racette, M.S., P.L.S. Green Seal Environmental, Inc.

## Past Chair

J. Torey Nalbone, Ph.D., CIH The University of Texas at Tyler

### Vice Chair-Operations

Randal J. Keller, Ph.D. Murray State University

### Members-at-Larae Niaz Latif, Ph.D.

Purdue University Northwest

Rebecca Y. Popeck, P.L.S. SPACECO, Inc.

Lisa C. Sachs, FAIA, FCMAA, CCM Cumming Construction Management, Inc.

Public Commissioner Ellayne S. Ganzfried, M.S.

# **Board Area Delegation Chair**

Hamid Fonooni, Ph.D. University of California - Davis **Commission Members** 

AAEES – American Academy of Environmental Engineers and Scientists Prahlad N. Murthy, Ph.D., P.E. Wilkes University

### AIHA – American Industrial Hygiene Association

Thomas E. Johnson, Ph.D. Colorado State University, Fort Collins

Robert N. Phalen, Ph.D., CIH University of Houston - Clear Lake

Philip A. Smith, Ph.D. United States Department of Labor – Occupational Safety and Health Administration (OSHA)

# ANS – American Nuclear Society

Mary Lou Dunzik-Gougar, Ph.D. Idaho State University

# ASCE – American Society of

**Civil Engineers** Amitabha (Amit) Bandyopadhyay, Ph.D., P.E Farmingdale State College

### ASSP - American Society of Safety Professionals

Paulette Lantuh, CSP Kodak Alaris

Richard Olawoyin, Ph.D., CEP, CSP Oakland University

Lu Yuan, Sc.D., CSP Southeastern Louisiana University

#### CMAA – Construction Management Association of America

Anthony L. Brizendine, Ph.D., P.E. University of North Carolina at Charlotte

Kevin W. Love, P.E. Jacobs

Donald B. Russell, M.S. Vanir Construction Management, Inc.

# NCEES – National Council of Examiners for Engineering and Surveying

Gary W. Thompson, PLS North Carolina Geodetic Survey

#### NSPS - National Society of **Professional Surveyors**

Ralph W. Goodson, P.E., L.S.

Peter J. Hutchison, P.E., L.S. Self-Employed

Paul K. Male, M.S., P.E., L.S. Town of Stillwater

# SME

David R. Hammond, Ph.D. Hammond International Group

# **2019-20 COMPUTING ACCREDITATION COMMISSION**

# Officers

Chair

Ronald P. Doyle, Ph.D. Broadcom

# Chair-Elect

Cary Laxer, Ph.D. Rose-Hulman Institute of Technology

### Past Chair

John L. Schnase, Ph.D. NASA Goddard Space Flight Center

# Vice Chair-Operations

Rajendra K. Raj, Ph.D. Rochester Institute of Technology

### Members-at-Large

Jean R.S. Blair, Ph.D. United States Military Academy

Barbara Doyle, Ph.D. Jacksonville University

David S. Gibson, Ph.D. Professor Emeritus, United States Air Force Academy

Scott Murray, MBA HCA Healthcare

Michael Oudshoorn, Ph.D. High Point University

Anne-Louise Radimsky, Ph.D. California State University, Sacramento

George Pothering, Ph.D. College of Charleston

Mohammed Samaka, Ph.D. College of the North Atlantic - Qatar

Yaakov Varol, Ph.D. University of Nevada, Reno

Public Commissioner Cheryl D. Cardell, Ph.D.

# **Board Area Delegation Chair** Andrew T. Phillips, Ph.D.

# CSAB

Sherif G. Aly Ahmed, D.Sc. The American University in Cairo

Imad Antonios, Ph.D. Southern Connecticut State University

Asai Asaithambi, Ph.D. University of North Florida

Nancy Birkenheuer, M.S. **Regis University** 

Dennis Bouvier, Ph.D. Southern Illinois University, Edwardsville

Curtis A. Carver, Ph.D. University of Alabama at Birmingham

James A. Cercone, Ph.D. University of Charleston

David A. Cook, Ph.D. Stephen F. Austin State University

David W. Cordes, Ph.D. The University of Alabama

Stewart Crawford, Ph.D. Hawai'i Pacific University Subhasish Dasgupta, Ph.D.

Tim DeClue, Ph.D.

Geoffrey Dick, Ph.D. St. John's University

Deborah Lynn Dunn, Ph.D. Stephen F. Austin State University

John K. Estell, Ph.D. Ohio Northern University

Leslie D. Fife, Ph.D. The Church of Jesus Christ of Latter-day Saints

Guillermo A. Francia III, Ph.D. The University of West Florida

United States Naval Academy

# **Commission Members**

George Washington University

Southwest Baptist University

Teofilo F. Gonzalez, Ph.D. University of California -Santa Barbara

Sandra Gorka, Ph.D. Pennsylvania College of Technology

Mary J. Granger, Ph.D. Professor Emeritus, George Washington University

Haidar M. Harmanani, Ph.D. Lebanese American University

Frederick C. Harris, Ph.D. University of Nevada, Reno

George C. Harrison, Ph.D. Norfolk State University

Chenglie Hu, Ph.D. Carroll University

Kevin Huggins, Ph.D. Harrisburg University of Science and Technology

Carolyn M. Jacobson, Ph.D. Pennsylvania State University, DuBois

Stephen M. Jodis, Ph.D. St. Vincent College

David J. John, Ph.D. Wake Forest University

Joseph M. Kizza, Ph.D. University of Tennessee, Chattanooga

Jeffrey A. Lasky, Ph.D. Rochester Institute of Technology

Jim Leone, Ph.D. Rochester Institute of Technology

Lois Mansfield, M.S. Raytheon Company

Timothy J. McGuire, Ph.D. Texas A&M University

Bruce McMillin, Ph.D. Missouri University of Science and Technology Venkatakrishnan Lakshminarasimhan, Ph.D. RGM College of Engineering and Technology (autonomous)

Amos O. Olagunju, Ed.D. Saint Cloud State University

Raymond Papp, Ph.D. The University of Tampa

Allen Parrish, Ph.D. The University of Alabama

Jody Paul, Ph.D. Metropolitan State University of Denver

Shari Plantz-Masters, Ph.D. Regis University

Jon A. Preston, Ph.D. Kennesaw State University

Safwan Qasem, Ph.D. King Saud University

Sridhar Radhakrishnan, Ph.D. University of Oklahoma

Donna Reese, Ph.D. Professor Emeritus. Mississippi State University Harry L. Reif, Ph.D. James Madison University

Dan Resler, Ph.D.

Virginia Commonwealth University Anthony S. Ruocco, Ph.D., P.E.

Roger Williams University Hazem Said, Ph.D.

University of Cincinnati

Stephen B. Seidman, Ph.D.

David L. Shroads, D.Sc. Apollo Education Group (AEG)

Randy K. Smith, Ph.D. University of Alabama

Stephanie Smullen, Ph.D.

Edward Sobiesk, Ph.D. United States Military Academy

Judith L. Solano, Ph.D. University of North Florida

George C. Stockman, Ph.D. Professor Emeritus, Michigan State University

Heikki Topi, Ph.D. Bentley University Kim W. Tracy, M.S. Rose-Hulman Institute of Technology

Thomas R. Turner, Ph.D. University of Central Oklahoma

Paul T. Tymann, M.S. Rochester Institute of Technology

Andy Ju An Wang, Ph.D. Southern Illinois University, Carbondale

Pearl Y. Wang, Ph.D. George Mason University

Christopher Ward, Ph.D. UBS

# 2019-20 ENGINEERING **ACCREDITATION COMMISSION**

## Officers

#### Chair

Jeffrey W. Fergus, Ph.D. Auburn University

### Chair-Elect

David Binning, M.C.E., P.E. George Mason University

#### Past Chair

Jeffrey R. Keaton, Ph.D., P.E. Wood Environment & Infrastructure Solutions Americas

#### Vice Chair-Operations

M. Patricia Brackin, Ph.D. Rose-Hulman Institute of Technology

#### Members-at-Large

Sue Ann Bidstrup Allen, Ph.D. University of Pennsylvania

Kenneth S. Ball, Ph.D., P.E. George Mason University

Oscar Barton Jr., Ph.D., P.E. Morgan State University

Bopaya Bidanda, Ph.D. University of Pittsburgh

Gerald Burnham, Ph.D. The University of Texas at Dallas

Lizette Chevalier, Ph.D. Southern Illinois University, Carbondale

Lorraine Fleming, Ph.D., P.E. Howard University

Linda Franzoni, Ph.D. Duke University

Paul C. Jackson, Sc.D., P.E. California Maritime Academy

Kathleen Kramer, Ph.D. University of San Diego

Randy S. Lewis, Ph.D. Brigham Young University James R. Plasker, M.S. American Society for Photogrammetry and Remote Sensing

Sanjiv Sarin, Ph.D., P.E. North Carolina A&T State University

Steven Schreiner, Ph.D., P.E. The College of New Jersey

Ellen W. Stevens, Ph.D., P.E. Consulting Civil Engineer

Chris Taylor, Ph.D. Milwaukee School of Engineering

Christa M. Weisbrook, Ph.D., P.E. University of Missouri

### **Public Commissioner**

Amy O'Leary, Ph.D. Virginia Department of Transportation

> **Board Area Delegation Chair** Dianne Chong, Ph.D.

# **Commission Members**

# AAEES – American Academy of Environmental Engineers and Scientists

Anne M. Germain, M.E., P.E. National Waste & **Recycling Association** 

Jeffrey H. Greenfield, Ph.D., P.E. Florida International University

F. Michael Saunders, Ph.D. Professor Emeritus, Georgia Institute of Technology

David A. Vaccari, Ph.D. Stevens Institute of Technology

## ACerS/NICE – The American Ceramic Society's National Institute of Ceramic Engineers

Janet M. Callahan, Ph.D. Michigan Technological University

# The Boeing Company (Retired)

#### AIAA – American Institute of Aeronautics and Astronautics

Mark R. Archambault, Ph.D. Florida Institute of Technology

Angela Trego, Ph.D., P.E. Practical Aeronautics

Srinivas R. Vadali, Ph.D. Texas A&M University

# AIChE – American Institute of Chemical Engineers

R. Mark Bricka, Ph.D., P.E. Mississippi State University

Gabor Kiss, Ph.D. ExxonMobil Research & Engineering Co.

Steven LeBlanc, Ph.D., P.E. Professor Emeritus, University of Toledo

Alon V. McCormick, Ph.D. University of Minnesota

Martha C. Mitchell, Ph.D., P.E. New Mexico State University

Kimberly L. Ogden, Ph.D. University of Arizona

Francis J. Schork, Ph.D., P.E. Professor Emeritus. Georgia Institute of Technology

James E. Smith Jr., Ph.D. Teledyne Brown Engineering

# ANS – American Nuclear Society

Walid A. Metwally, Ph.D. University of Sharjah

Garry G. Young, M.S., MBA, P.E. Entergy Nuclear

# ASABE – American Society of Agricultural and Biological Engineers

Sonia Maassel Jacobsen, P.E. University of Minnesota Twin Cities

David D. Jones, Ph.D. University of Nebraska, Lincoln Peter A. Livingston, Ph.D., P.E. Bosque Engineering

### ASCE – American Society of Civil Engineers

Bruce William Berdanier, Ph.D., P.E. South Dakota State University

Mark P. Cal, Ph.D., P.E. New Mexico State University

David A. Chin, Ph.D. University of Miami

Norbert Delatte, Ph.D., P.E. Oklahoma State University

Mark O. Federle, Ph.D., P.E. Marguette University

Nathan M. Kathir, Ph.D., P.E. George Mason University

Audra N. Morse, Ph.D. Michigan Technological University

W.Grigg Mullen Jr., Ph.D., P.E. Professor Emeritus, Virginia Military Institute

Michael A. Ports, M.S., P.E. Ports Engineering

Daniel Pradel, Ph.D., P.E. University of California - Los Angeles

Joseph E. Saliba, Ph.D., P.E. University of Dayton

Thomas C. Sheahan, Sc.D., P.E. Northeastern University

## ASEE – American Society for Engineering Education

Jane Fraser, Ph.D. Colorado State University, Pueblo

Baha Jassemnejad, Ph.D. ASRC Federal System Solutions, Federal Aviation Administration (FAA), Oklahoma Communication Engineering Team and Telecommunications Team

Teri Reed, Ph.D. University of Cincinnati Chell Roberts, Ph.D. University of San Diego

Lisa A. Zidek, Ph.D. Florida Gulf Coast University

ASHRAE – American Society of Heating, Refrigerating, and Air-Conditioning Engineers S. David Cassel, Ph.D., P.E. Oklahoma Christian University

ASME - American Society of **Mechanical Engineers** N.K. Anand, Ph.D. Texas A&M University

John Gardner, Ph.D., P.E. Boise State University

Christine E. Hailey, Ph.D., P.E. Texas State University

Edwin A. Harvego, M.S., P.E.

William M. Jordan, Ph.D., P.E. Baylor University

Swami Karunamoorthy, D.Sc. Washington University in St. Louis

Allan T. Kirkpatrick, Ph.D. Colorado State University, Fort Collins

Charles W. Kniselv, Ph.D., P.E. Professor Emeritus, Bucknell University

Pierre M. Larochelle, Ph.D., P.E. South Dakota School of Mines and Technology

Michele Miller, Ph.D. Campbell University

Joseph C. Musto, Ph.D., P.E. Milwaukee School of Engineering

Arnoldo Muyshondt, Ph.D., P.E. Sandia National Laboratories

Bipin Pai, Ph.D. Professor Emeritus, Purdue University Northwest

Jay Raja, Ph.D. University of North Carolina at Charlotte

Marco E. Sanjuan, Ph.D. Universidad del Norte

Ronald Smelser, Ph.D., P.E. University of North Carolina at Charlotte

Richard N. Smith, Ph.D. Rensselaer Polytechnic Institute

#### BMES – Biomedical Engineering Society

Jennifer Amos, Ph.D. University of Illinois, Urbana-Champaign

Paul J. Benkeser, Ph.D. Georgia Institute of Technology

Daniel Cavanagh, Ph.D. Bucknell University

Michele J. Grimm, Ph.D. Michigan State University

Noshir A. Langrana, Ph.D. Rutgers University

Jennifer S. Wayne, Ph.D. Virginia Polytechnic Institute and State University

# CSAB

Noureddine Abbadeni, Ph.D. King Saud University

David A. Dampier, Ph.D. Marshall University

Sigurd Meldal, Sc.D. Mostly Sunny

### IEEE – Institute of Electrical and Electronics Engineers

John O. Attia, Ph.D., P.E. Prairie View A&M University

Leonard J. Bohmann, Ph.D., P.E. Michigan Technological University

William R Boley, M.S., P.E. Northrop Grumman

Joanne E. DeGroat, Ph.D. The Ohio State University

Perry K. Falk, Ph.D., P.E. Purdue University, Fort Wayne

Jeffrey E. Froyd, Ph.D. The Ohio State University

Stephen Horan, Ph.D. NASA Langley Research Center

Douglas W. Jacobson, Ph.D. Iowa State University

Cass D. Kuhl, M.S., P.E. NASA Glenn Research Center

C. Steven Lingafelt, M.S. IBM

Phanindra K. Mannava, Ph.D. ARM

Russ Meier, Ph.D. Milwaukee School of Engineering

Tony L. Mitchell, Ph.D. North Carolina State University at Raleigh

Lance C. Perez, Ph.D. University of Nebraska, Lincoln

Douglas B. Williams, Ph.D., P.E. Georgia Institute of Technology

Raphael W.H. Wong, M.S. Private Consultant

Chai Wah Wu, Ph.D. IBM

### IISE – Institute of Industrial and Systems Engineers Rajan Batta, Ph.D.

University at Buffalo

Sunderesh S. Heragu, Ph.D. Oklahoma State University

Denise Ford Jackson, Ph.D., P.E. University of Tennessee, Space Institute

SME Christopher P. Pung, Ph.D., P.E. Grand Valley State University

### Keith A. Johnson, MBA, P.E. Dominion Energy Utah

Abu S. M. Masud, Ph.D., P.E. Professor Emeritus. Wichita State University

Hamid R. Parsaei, Ph.D., P.E. Texas A&M University

**INCOSE – The International** John V. Farr, Ph.D., P.E.

Young B. Moon, Ph.D., P.E. Syracuse University

ISA – International Society of Automation Scott W. Sommer, M.E., P.E. Horizon Controls Group

NCEES – National Council of Examiners for Engineering and Surveying Steven F. Barrett, Ph.D., P.E. University of Wyoming

NSPE – National Society of Professional Engineers Olga Pierrakos, Ph.D. Wake Forest University

NSPS – National Society of Professional Surveyors Larry D. Graham, M.S., P.E., L.S.

**SAE International** Peter D. Jones, Ph.D., P.E. Auburn University

# Council on Systems Engineering

Professor Emeritus, United States Military Academy at West Point

Daniel J. Weinacht, Ph.D., P.E. Sargent & Lundy

Robert O. Warrington, Ph.D. Michigan Technological University

### SME-AIME – Society for Mining, Metallurgy, and Exploration Rick O. Honaker, Ph.D.

University of Kentucky

Joel S. Kuszmaul, Ph.D., P.E. Merrimack College

SNAME - Society of Naval Architects and Marine Engineers James H. Miller, Sc.D., P.E. University of Rhode Island

Katherine Terwilliger, M.S. Naval Surface Warfare Center - Carderock Division

### SPE - Society of Petroleum Engineers Robert Chase, Ph.D., P.E.

Shirish L. Patil, Ph.D. King Fahd University of Petroleum and Minerals Dhahran, Saudi Arabia

# SPIE – The International Society for Optics and Photonics

Robert M. Bunch, Ph.D. Rose-Hulman Institute of Technology

### TMS – The Minerals, Metals, and Materials Society

Gregg M. Janowski, Ph.D. University of Alabama at Birmingham

Chester J. Van Tyne, Ph.D., P.E. Virginia Polytechnic Institute and State University

Charles Ward, Ph.D. Air Force Research Laboratory

# 2019-20 ENGINEERING TECHNOLOGY ACCREDITATION COMMISSION

# Officers

# Chair

Thomas M. Hall, Ed.D Northwestern State University of Louisiana

### Chair-Elect

Scott Danielson, Ph.D., P.E. Arizona State University

### Past Chair

James A. Lookadoo, Ph.D. Professor Emeritus, Pittsburg State University

# Vice Chair-Operations

April Cheung, M.S., MBA Purdue University

# Members-at-Large

Ciro Capano, M.S., P.E. Private Consulting

Raju S. Dandu, Ph.D. Kansas State University

Carol E. Schulte McNeese State University (retired)

Harrie J. Stevens, Ph.D. Professor Emeritus, Alfred University

Public Commissioner Steven Browning, M.Ed.

#### **Board Area Delegation Chair**

Larraine A. Kapka, M.S., P.E. Professor Emeritus, Sinclair Community College Commission Members

AAEES - American Academy of Environmental Engineers and Scientists

Berrin Tansel, Ph.D., P.E. Florida International University

### AAMI – Association for the Advancement of Medical Instrumentation

Barbara Loebig Christe, Ph.D. Farmingdale State College

# AIAA – American Institute of Aeronautics and Astronautics William Garrard, Ph.D.

University of Minnesota

### AICHE – American Institute of Chemical Engineers Raja Aravamuthan, Ph.D. Western Michigan University

# ANS – American Nuclear Society

Kenneth S. Allen, Ph.D., P.E. United States Military Academy

## ASABE – American Society of Agricultural and Biological Engineers Gary A. Clark, Ph.D., P.E. Kansas State University

ASCE – American Society

of Civil Engineers Maury Fortney, M.E., P.E.

MEFI Engineering Michael J. Hagenberger, Ph.D., P.E. The Ohio State University

Ben J. Stuart, Ph.D., P.E. Old Dominion University ASEE – American Society for Engineering Education Keith V. Johnson, Ph.D. East Tennessee State University

# ASHRAE – American Society of Heating, Refrigerating, and Air-Conditioning Engineers Mansour Zenouzi, Ph.D., P.E. Wentworth Institute of Technology

ASME - American Society of Mechanical Engineers Beth A. Carle, Ph.D. Rochester Institute of Technology

Maureen J. Hart, M.S., P.E. Walt Disney Imagineering

Mark D. Lower, Ph.D., P.E. UT-Battelle, LLC.

Hy D Tran, Ph.D., P.E. Sandia National Laboratories

CSAB Keith B. Olson, Ph.D. Utah Valley University

# IEEE - Institute of Electrical and Electronics Engineers

Walter O. Burns, M.S. Metropolitan State University of Denver

Raymond E. Floyd, Ph.D. Northwest State Community College

Venancio L. Fuentes, M.S., P.E. County College of Morris

Martin A. Reed, Ph.D. Georgetown University

Rich Warren, M.S.

### IISE – Institute of Industrial and Systems Engineers Richard M. Morris, Ph.D.

ISA – International Society of Automation Elden A. Plettner, MBA ISA

NCEES – National Council of Examiners for Engineering and Surveying Bobby G. Crawford, Ph.D., P.E. Ouinnipiac University

NSPS – National Society of Professional Surveyors Douglas M. Mace, M.S., P.E., L.S.

### SAE International

Kenneth Rennels, M.S., P.E. Indiana University–Purdue University Indianapolis

### SME

Michael D. Johnson, Ph.D. Texas A&M University

Morteza Sadat-Hossieny, Ph.D. Northern Kentucky University

#### SNAME – Society of Naval Architects and Marine

Engineers Vijay Panchang, Ph.D., P.E. Texas A&M University

### TMS – The Minerals, Metals & Materials Society

Reza A. Mirshams, Ph.D., P.E. University of North Texas The best way to stay up to date is to be part of the process. You collect a lot of knowledge and information, and you'd be crazy to not utilize that. And it's only fair to give back.

.....

- Jenna Carpenter

# **2019-20 TEAM CHAIRS**

Team Chairs have demonstrated technical competency and applied knowledge of accreditation criteria, policies and procedures. They are experienced Program Evaluators who lead reviews and interact with the institutional representatives. We owe a debt of gratitude for their dedication and service to ABET and their professions.

The following individuals served as Team Chairs for at least one evaluation visit during the 2019-20 accreditation cycle.

#### **Team Chairs**

Noureddine Abbadeni, Ph.D. King Saud University

Said Abubakr, Ph.D. Western Michigan University

Mahesh Chand Aggarwal, Ph.D. Gannon University

Kenneth S. Allen, Ph.D., P.E. United States Military Academy

Sue Ann Bidstrup Allen, Ph.D. University of Pennsylvania

Sherif G. Aly Ahmed, D.Sc. The American University in Cairo

Jennifer Amos, Ph.D. University of Illinois, Urbana-Champaign

N. K. Anand, Ph.D. Texas A&M University

Imad Antonios, Ph.D. Southern Connecticut State University

Raja Aravamuthan, Ph.D. Western Michigan University

Mark R. Archambault, Ph.D. Florida Institute of Technology Asai Asaithambi, Ph.D. University of North Florida

John O. Attia, Ph.D., P.E. Prairie View A&M University

James Aylor, Ph.D. Professor Emeritus, University of Virginia

Kenneth Ball, Ph.D., P.E George Mason University

Amitabha (Amit) Bandyopadhyay, Ph.D., P.E Farmingdale State College

Steven F. Barrett, Ph.D., P.E. University of Wyoming

Oscar Barton Jr., Ph.D., P.E.

Morgan State University Rajan Batta, Ph.D.

University at Buffalo Paul J. Benkeser, Ph.D.

Georgia Institute of Technology Ronald Bennett Ph.D., MBA University of St Thomas, Saint Paul

Bruce William Berdanier, Ph.D., P.E. South Dakota State University

Bopaya Bidanda, Ph.D. University of Pittsburgh

David Binning, M.C.E., P.E. George Mason University

Nancy Birkenheuer, M.S. Regis University

Jean R.S. Blair, Ph.D. United States Military Academy

Daisie Boettner, Ph.D., P.E

Leonard J. Bohmann, Ph.D., P.E Michigan Technological University

William R Boley, M.S., P.E. Northrop Grumman Andrew Borchers, DBA Lipscomb University

Dennis Bouvier, Ph.D. Southern Illinois University, Edwardsville

M. Patricia Brackin, Ph.D. Rose-Hulman Institute of Technology

R. Mark Bricka, Ph.D., P.E. Mississippi State University

Anthony L. Brizendine, Ph.D., P.E. University of North Carolina at Charlotte

Tim Brower, Ph.D. University of Colorado Boulder

Robert M. Bunch, Ph.D. Rose-Hulman Institute of Technology

William Burkett, Ph.D. Capella University

Gerald Burnham, Ph.D. The University of Texas at Dallas

Walter O. Burns, M.S. Metropolitan State University of Denver

Mark Cal, Ph.D., P.E. New Mexico State University

Janet M. Callahan, Ph.D. Michigan Technological University

Ciro Capano, M.S., P.E. Private Consulting

Beth A. Carle, Ph.D. Rochester Institute of Technology

Curtis A. Carver, Ph.D. University of Alabama at Birmingham

S. David Cassel, Ph.D., P.E. Oklahoma Christian University James A. Cercone, Ph.D., P.E. University of Charleston

Robert Chase, Ph.D., P.E.

April Cheung, M.S., MBA Purdue University

David A. Chin, Ph.D. University of Miami

Barbara Loebig Christe, Ph.D. Farmingdale State College

Gary A. Clark, Ph.D., P.E. Kansas State University

David A. Cook, Ph.D. Stephen F. Austin State University

David W. Cordes, Ph.D. The University of Alabama

Stewart Crawford, Ph.D. Hawai'i Pacific University

Bobby G. Crawford, Ph.D., P.E. Quinnipiac University

David A. Dampier, Ph.D. Marshall University

Raju S. Dandu, Ph.D. Kansas State University

Scott Danielson, Ph.D., P.E. Arizona State University

Subhasish Dasgupta, Ph.D. George Washington University

Brahma Dathan, Ph.D. Metropolitan State University

Tim DeClue, Ph.D. Southwest Baptist University

Joanne E. DeGroat, Ph.D. The Ohio State University

Norbert Delatte, Ph.D., P.E. Oklahoma State University

Geoffrey Dick, Ph.D. St John's University

Barbara Doyle, Ph.D. Jacksonville University

Ronald P. Doyle, Ph.D. Broadcom Deborah L. Dunn, Ph.D. Stephen F. Austin State University

John K. Estell, Ph.D. Ohio Northern University

Perry K. Falk, Ph.D., P.E. Purdue University, Fort Wayne

John V. Farr, Ph.D., P.E. Professor Emeritus, United States Military Academy at West Point

Mark O. Federle, Ph.D., P.E. Marquette University

Leslie D. Fife, Ph.D. The Church of Jesus Christ of Latter-day Saints

Lorraine Fleming, Ph.D., P.E. Howard University

Raymond E. Floyd, Ph.D. Northwest State Community College

Sam Formby, Ph.D. Appalachian State University (retired)

Maury Fortney, M.E., P.E. MEFI Engineering

Guillermo A. Francia III, Ph.D. The University of West Florida Linda Franzoni, Ph.D.

Linda Franzoni, Ph.D. Duke University Jane Fraser, Ph.D. Colorado State University, Pueblo

Jeffrey E. Froyd, Ph.D. The Ohio State University

Venancio L. Fuentes, M.S., P.E. County College of Morris

John Gardner, Ph.D., P.E. Boise State University

William Garrard, Ph.D. University of Minnesota

Anne M. Germain, M.E., P.E. National Waste & Recycling Association David S. Gibson, Ph.D. Professor Emeritus, United States Air Force Academy

Teofilo F. Gonzalez, Ph.D. University of California -Santa Barbara

Ralph W. Goodson, P.E., L.S.

Sandra Gorka, Ph.D. Pennsylvania College of Technology

Mary Lou Dunzik-Gougar, Ph.D. Idaho State University

Larry D. Graham, M.S., P.E., L.S.

Mary J. Granger, Ph.D. Professor Emeritus, George Washington University

Jeffrey H. Greenfield, Ph.D., P.E. Florida International University

Michele J. Grimm, Ph.D. Michigan State University

Michael J. Hagenberger, Ph.D., P.E. The Ohio State University

Christine E. Hailey, Ph.D., P.E. Texas State University

David R. Hammond, Ph.D. Hammond International Group

Haidar M. Harmanani, Ph.D. Lebanese American University

Frederick C. Harris, Ph.D. University of Nevada, Reno

George C. Harrison, Ph.D. Norfolk State University

Maureen J. Hart, M.S., P.E. Walt Disney Imagineering

Edwin A. Harvego, M.S., P.E.

Sunderesh S. Heragu, Ph.D. Oklahoma State University

Rick O. Honaker, Ph.D. University of Kentucky

Stephen Horan, Ph.D. NASA Langley Research Center Mohammad H. Hosni, Ph.D. Kansas State University

Chenglie Hu, Ph.D. Carroll University

Kevin Huggins, Ph.D. Harrisburg University of Science and Technology

Neil Hutzler, Ph.D., P.E. Professor Emeritus, Michigan Technological University

Stephen Y. Itoga, Ph.D. Professor Emeritus. University of Hawaii at Manoa

Denise Ford Jackson, Ph.D., P.E. University of Tennessee, Space Institute

....

The more involved I got in assessment, the more I felt it could make me a better teacher ... ABET is really valuable for teaching.

# - Patsy Brackin

Paul Jackson, Sc.D., P.E. The California Maritime Academy

Sonia Maassel Jacobsen, P.E. University of Minnesota, Twin Cities

Carolyn M. Jacobson, Ph.D. Pennsylvania State University

Douglas W. Jacobson, Ph.D. Iowa State University

Gregg M. Janowski, Ph.D. University of Alabama at Birmingham

Baha Jassemnejad, Ph.D. ASRC Federal System Solutions, Federal Aviation Administration (FAA), Oklahoma Communication David Jones, Ph.D., P.E. University of Nebraska-Lincoln Peter D. Jones, Ph.D., P.E.

Engineering Team and

Stephen Jodis, Ph.D.

St. Vincent College

David John, Ph.D.

Wake Forest University

Dominion Energy Utah

Keith V. Johnson, Ph.D.

Texas A&M University

Fort Collins

Michael D. Johnson, Ph.D.

Thomas E. Johnson, Ph.D.

Colorado State University,

Keith A. Johnson, MBA, P.E.

East Tennessee State University

Team

Telecommunications Engineering

Auburn University

William M. Jordan, Ph.D., P.E. Baylor University

Swami Karunamoorthy, D.Sc. Washington University in St Louis

Nathan Kathir, Ph.D., P.E George Mason University

Jeffrey Keaton, Ph.D., P.E Wood Environment ይ Infrastructure Solutions, Inc.

Randal J. Keller, Ph.D. Murray State University

Ann L. Kenimer, Ph.D. Texas A&M University

Allan T. Kirkpatrick, Ph.D. Colorado State University, Fort Collins

Gabor Kiss, Ph.D. ExxonMobil Research & Engineering Co.

Joseph Migga Kizza, Ph.D. University of Tennessee, Chattanooga

Charles W. Knisely, Ph.D., P.E. Professor Emeritus, Bucknell University

Kathleen Kramer, Ph.D. University of San Diego

Cass D. Kuhl, M.S., P.E. NASA Glenn Research Center

Joel S. Kuszmaul, Ph.D., P.E. Merrimack College

Venkatakrishnan Lakshminarasimhan, Ph.D. RGM College of Engineering and Technology (autonomous)

Noshir Langrana, Ph.D., P.E. Rutgers University

Paulette Lantuh, CSP Kodak Alaris

Pierre M. Larochelle, Ph.D., P.E. South Dakota School of Mines and Technology

Jeffrey A. Lasky, Ph.D. Rochester Institute of Technology

Niaz Latif, Ph.D. Purdue University Northwest

Cary Laxer, Ph.D. Rose-Hulman Institute of Technology

Steven LeBlanc, Ph.D., P.E. Professor Emeritus, University of Toledo

Brigham Young University

Timothy Lindquist, Ph.D.

Arizona State University

C. Steven Lingafelt, M.S.

Bosque Engineering

IBM

Jim Leone, Ph.D. Rochester Institute of Technology

Randy Lewis, Ph.D.

Martha C. Mitchell, Ph.D., P.E.

Tony L. Mitchell, Ph.D. North Carolina State University at Raleigh

Young B. Moon, Ph.D., P.E. Syracuse University

Richard M. Morris, Ph.D.

Professor Emeritus, Pittsburg State University

James A. Lookadoo, Ph.D.

Peter A. Livingston, Ph.D., P.E.

Mark D. Lower, Ph.D., P.E. UT-Battelle, LLC

Douglas M. Mace, M.S., P.E., L.S.

Paul K. Male, M.S., P.E., L.S. Town of Stillwater

Phanindra Mannava, Ph.D. ARM

Lois Mansfield, M.S. Raytheon Company

Abu S. M. Masud, Ph.D., P.E. Professor Emeritus. Wichita State University

Alon V. McCormick, Ph.D. University of Minnesota

Timothy J. McGuire, Ph.D. Texas A&M University

Bruce McMillin, Ph.D. Missouri University of Science and Technology

Russ Meier, Ph.D. Milwaukee School of Engineering

Sigurd Meldal, Sc.D. Mostly Sunny

Walid A. Metwally, Ph.D. University of Sharjah

Vijay Panchang, Ph.D., P.E. Texas A&M University

John Orr, Ph.D.

Michele Miller, Ph.D. Campbell University

James H. Miller, Sc.D., P.E. University of Rhode Island

Reza Mirshams, Ph.D., P.E. University of North Texas

New Mexico State University

Audra N. Morse, Ph.D. Michigan Technological University

Scott Murray, MBA HCA Healthcare Prahlad N. Murthy, Ph.D., P.E.

Wilkes University

Joseph C. Musto, Ph.D., P.E. Milwaukee School of Engineering

Arnoldo Muyshondt, Ph.D., P.E. Sandia National Laboratories

J. Torey Nalbone, Ph.D., CIH The University of Texas at Tyler

Kimberly Ogden, Ph.D. University of Arizona

Amos O. Olagunju, Ed.D. Saint Cloud State University

Richard Olawoyin, Ph.D., CEP, CSP Oakland University

Keith B. Olson, Ph.D. Utah Valley University

David Olwell, Ph.D. Saint Martin's University

Worcester Polytechnic Institute

Michael Oudshoorn, Ph.D High Point University

Raymond Papp, Ph.D. The University of Tampa

Allen Parrish, Ph.D. The University of Alabama

Hamid Parsaei, Ph.D., P.E. Texas A&M University

Shirish L. Patil, Ph.D. King Fahd University of Petroleum and Minerals

Jody Paul, Ph.D. Metropolitan State University of Denver

Lance C. Perez, Ph.D. University of Nebraska, Lincoln

Robert N. Phalen, Ph.D., CIH University of Houston

Olga Pierrakos, Ph.D. Wake Forest University

James R. Plasker, M.S. American Society for Photogrammetry and Remote Sensing

Elden A. Plettner, MBA ISA

Rebecca Y. Popeck P.L.S. SPACECO, Inc.

Michael A. Ports, M.S., P.E. Ports Engineering

George Pothering, Ph.D. College of Charleston

Daniel Pradel, Ph.D., P.E. University of California -Los Angeles

Jon A. Preston, Ph.D.. Kennesaw State University

Barbara Price, Ph.D. Georgia Southern University

Christopher P. Pung, Ph.D., P.E. Grand Valley State University

Safwan Qasem, Ph.D. King Saud University

Jason G. Racette, M.S., P.L.S. Green Seal Environmental, LLC Sridhar Radhakrishnan, Ph.D. University of Oklahoma

Anne-Louise Radimsky, Ph.D. California State University, Sacramento

Rajendra K. Raj, P.E., PLS Rochester Institute of Technology

Jay Raja, Ph.D. University of North Carolina at Charlotte

Martin A. Reed. Ph.D. Georgetown University

Teri Reed, Ph.D. University of Cincinnati

Donna Reese, Ph.D. Professor Emeritus, Mississippi State University

Harry L. Reif, Ph.D. James Madison University

Kenneth Rennels, M.S., P.E. Indiana University–Purdue University Indianapolis

Dan Resler, Ph.D. Virginia Commonwealth University

Chell Roberts, Ph.D. University of San Diego

Anthony S. Ruocco, Ph.D., P.E. Roger Williams University

Donald B. Russell, M.S. Vanir Construction Management, Inc.

Lisa C. Sachs, FAIA, FCMAA, CCM Cumming Construction Management, Inc.

Morteza Sadat-Hossieny, Ph.D. Northern Kentucky University

Hazem Said, Ph.D. University of Cincinnati

Joseph E. Saliba, Ph.D., P.E. University of Dayton

Mohammed Samaka, Ph.D. College of the North

Marco Sanjuan, Ph.D. Universidad del Norte

Atlantic - Qatar

Sanjiv Sarin, Ph.D., P.E. North Carolina A&T

State University F. Michael Saunders, Ph.D.

Professor Emeritus, Georgia Institute of Technology

John L. Schnase, Ph.D. NASA Goddard Space Flight Center

Francis J. Schork, Ph.D., P.E. Professor Emeritus, Georgia Institute of Technology

Steven Schreiner, Ph.D., P.E. The College of New Jersey

Carol Schulte McNeese State University (retired)

Stephen Seidman, Ph.D.

Thomas Sheahan, Sc.D., P.E. Northeastern University

David Shroads, D.Sc Apollo Education Group (AEG)

Ronald Smelser, Ph.D., P.E. University of North Carolina at Charlotte

Randy Smith, Ph.D. The University of Alabama

Richard Smith, Ph.D. Rensselaer Polytechnic Institute

James E. Smith Jr., Ph.D. Teledyne Brown Engineering

Phillip A. Smith, Ph.D., CIH U.S. Department of Labor - OSHA

Stephanie Smullen, Ph.D.

Edward Sobiesk, Ph.D. United States Military Academy

Judith Solano, Ph.D. University of North Florida

Scott W. Sommer, M.E., P.E. Horizon Controls Group

Paul Specht, Ph.D. Safety Management **Consulting Services** 

Ellen W. Stevens, Ph.D., P.E. Consulting Civil Engineer

Harrie J. Stevens, Ph.D. Professor Emeritus, Alfred University

George C. Stockman, Ph.D. Professor Emeritus. Michigan State University

Ben Stuart, Ph.D., P.E Old Dominion University

Matthew Sunseri, P.E. Zeus Enterprises

Berrin Tansel, Ph.D., P.E. Florida International University

Chris Taylor, Ph.D. Milwaukee School of Engineering

Katherine Terwilliger, M.S. Naval Surface Warfare Center - Carderock Division

Gerald H. Thomas, Ph.D. Milwaukee School of Engineering

Stanley Thomas, Ph.D. Wake Forest University

Gary W. Thompson, PLS North Carolina Geodetic Survey

Heikki Topi, Ph.D. Bentley University

Kim W. Tracy, M.S. Rose-Hulman Institute of Technology

Hy D Tran, Ph.D., P.E. Sandia National Laboratories

Angela Trego, Ph.D., P.E. Practical Aeronuatics

Thomas R. Turner, Ph.D. University of Central Oklahoma Albert J. Turner, Ph.D. Professor Emeritus. Clemson University

Paul T. Tymann, M.S.

Rochester Institute of Technology David A. Vaccari, Ph.D., P.E.

Stevens Institute of Technology

Srinivas R. Vadali, Ph.D. Texas A&M University

Chester J. Van Tyne, Ph.D., P.E. Virginia Polytechnic Institute and State University

Yaakov Varol, Ph.D. University of Nevada, Reno

Andy Ju An Wang, Ph.D. Southern Illinois University, Carbondale

Pearl Y. Wang, Ph.D.

George Mason University Christopher Ward, Ph.D. UBS

Charles Ward, Ph.D. Air Force Research Laboratory

Rich Warren, M.S.

Jennifer S. Wayne, Ph.D. Virginia Polytechnic Institute and State University

Daniel J. Weinacht, Ph.D., P.E. Sargent & Lundy

Christa M. Weisbrook, P.E., Ph.D. University of Missouri

Douglas B. Williams, Ph.D., P.E. Georgia Institute of Technology

Mary Jane Willshire, Ph.D. Capella University

Raphael W.H. Wong, M.S. Private Consultant

Chai Wah Wu, Ph.D. IBM

Garry G. Young, M.S., MBA, P.E. **Entergy Nuclear** 

Lu Yuan, Sc.D., CSP Southeastern Louisiana University

70

.....

We are facing extraordinary levels of uncertainty right now, and it's hard on everyone, especially the students. I've been in contact with ABET and I'm at least able to tell my students confidently that ABET is completely committed to working with us to ensure continued accreditation for our students. This kind of students-first support is exactly why I'm so proud to work with this organization.

Mohamed Zarrugh, Ph.D Professor Emeritus. James Madison University

Mansour Zenouzi, Ph.D., P.E Wentworth Institute of Technology

Lisa A. Zidek, Ph.D. Florida Gulf Coast University

> - Jennifer Brock

# 2019-20 PROGRAM EVALUATORS

Program Evaluators, or PEVs, are the backbone of the ABET accreditation process. They visit institutions and review the programs seeking accreditation. To become a PEV, an individual must meet certain qualifications, such as possession of a degree appropriate to the field, demonstrated interest in improving education and membership in at least one of the ABET Member Societies, to name but a few. Once accepted as a PEV, these individuals must undergo an extensive online and in-person training process before they are assigned to visit institutions worldwide.

We owe our Program Evaluators an enormous amount of gratitude for their dedication and service to their professions.

The following individuals served as PEVs for at least one evaluation visit during the 2019-20 accreditation cycle.

#### AAEES – American Academy of Environmental Engineers and Scientists

Michael A Butkus, Ph.D., P.E. United States Military Academy

Mark N. Goltz, Ph.D., P.E. Professor Emeritus. Air Force Institute of Technology

Adrian Thomas Hanson, Ph.D, P.E. University of Minnesota Duluth

Neil Hutzler, Ph.D., P.E. Professor Emeritus, Michigan Technological University Sarath Chandra Kumar Jagupilla, Ph.D., P.E. Stevens Institute of Technology

Ramanitharan Kandiah Ph.D., P.E Central State University

Yanna Liang, Ph.D. SUNY University at Albany

Robert E. Mackey, M.S., P.E. S2L, Incorporated

Daniel Barton Oerther, Ph.D., P.E. Missouri University of Science and Technology

LeeAnn Racz, Ph.D. ClearView Environmental Engineering and Consulting, LLC

Glenn Wilson Rehberger, M.S., P.E.

Debra R. Reinhart, Ph.D., P.E. University of Central Florida

Kelly A. Rusch, Ph.D., P.E. North Dakota State University-Main Campus

John J. Segna, M.E., MBA, P.E. American Society of **Civil Engineers** 

Berrin Tansel, Ph.D., P.E. Florida International University

Thomas Charles Timmes, Ph.D., P.E. Virginia Military Institute

Dennis D. Truax, Ph.D., P.E. Mississippi State University

Jianpeng Zhou, Ph.D., P.E. Southern Illinois University, Edwardsville

AAMI – Association for the Advancement of Medical Instrumentation

John Tobey Clark University of Vermont Avinash Konkani U.S. FDA, Center for Devices and Radiological Health

AIAA – American Institute of Aeronautics and Astronautics

Erian Armanios The University of Texas at Arlington

Subodh Bhandari California State Polytechnic University

Edward L. Burnett US Air Force Test Pilot School

Aaron R. Byerley United States Air Force Academy

Sanjay Garg Garg R&D Solutions

William Garrard, Ph.D. University of Minnesota

Adiel Guinzburg The Boeing Company

Awatef Hamed University of Cincinnati

Mohammad Javed Khan Tuskegee University

George A. Lesieutre Pennsylvania State University

Ronald Alois Madler Embry-Riddle Aeronautical University

Krishnaswamy Ravindra Saint Louis University

Faroog Saeed Imam Abdulrahman Bin Faisal University

Chelakara S. Subramanian, Ph.D Florida Institute of Technology

Valana Lorraine Wells, Ph.D. Arizona State University

John Weyrauch University of Minnesota, Twin Cities

### AIChE – American Institute of Chemical Engineers

Nader Mohamed Al-Bastaki The Kingdom University

Muthanna H. Al-Dahhan, D.Sc. Missouri University of Science and Technology

Andrew I. Biaglow United States Military Academy

Chien-Pin Chen Shanghai Jiao Tong University

Robert Bruce Coulter Chattanooga State **Community College** 

Ronald P. Danner Pennsylvania State University

Laura Dietsche, Ph.D., P.E. Dow Chemical Company

Steve R. Duke Auburn University

Gary L. Foutch University of Missouri-Kansas City

John Herbert Frey Independent Technical Advisor

Ricardo Gomez-Gonzalez Autonomous University of Nuevo León

Joanna Hambrick ARLANXEO

Thomas R. Hanley, Ph.D. Auburn University

Walter David Harding University of New Haven

Clifford Lee Henderson University of South Florida

Andrew Campion Hillier Iowa State University

Douglass Steven Kalika University of Kentucky

Claire F. Komives San Jose State University

Daniel J. Lacks Case Western Reserve University

Corey Leclerc New Mexico Institute of Mining and Technology

Norman W. Loney University of Cincinnati Douglas Kent Ludlow

Missouri University of Science and Technology

Sundar V. Madihally Oklahoma State University

Daniela Mainardi Louisiana Tech University Sean Francis Maloney

Avantor, Inc David C. Miller United States Department of Energy

Michael Edward Mullins

Sohail Murad

Srinivas Palanki

Lamar University Peter C. Pawlicki

**FMC** Corporation Sandra L. Pettit, P.E. University of South Florida Michael Edward Prudich

Ohio University

Peyton C. Richmond Lamar University Thatcher W. Root University of Wisconsin, Madison

Tony E. Saliba University of Dayton

John Robert Schlup Kansas State University

Michigan Technological University

Illinois Institute of Technology

Joseph A. Shaeiwitz, Ph.D. Auburn University

David Lawrence Silverstein, P.E. University of Kentucky

Joseph D. Smith Missouri University of Science and Technology

James Robert Springstead Western Michigan University

Mary Ann Stroud Los Alamos National Laboratory

David Suleiman University of Puerto Rico, Mayaguez

Jean W. Tom Bristol-Myers Squibb

David L. Tomasko, Ph.D. The Ohio State University

Reginald Percy Tomkins New Jersey Institute of Technology

Miriam R. Wattenbarger University of Pennsylvania

Eileen Webb Streamline Consulting

Ronald J. Willey Northeastern University

G. Paul Willhite University of Kansas

Andrew James Wilson Tulsa Heaters Inc

Richard Lee Zollars

# AIHA – American Industrial Hygiene Association

Robert John Agnew Oklahoma State University

Alice Greife, Ph.D., CIH, FAIHA University of Central Missouri

Dean R. Lillquist USDOL/OSHA

Cheryl L. Marcham Embry-Riddle Aeronautical University

Scott M. Nichelson, M.S. US Army Public Health Command - Central

Margaret Levin Phillips University of Oklahoma

Jeremy Slagley Air Force Institute of Technology

Steven M. Thygerson Brigham Young University

Dawn M. Toon University of Massachusetts-Amherst

#### ANS – American Nuclear Society

Muthanna H. Al-Dahhan, D.Sc. Missouri University of Science and Technology

James Blanchard University of Wisconsin, Madison

Gilbert J. Brown **Elysium Industries** 

Chaitanya Suresh Deo Georgia Institute of Technology

Youssef Shatilla Masdar Institute of Science and Technology

#### ASABE – American Society of Agricultural and **Biological Engineers**

Benali Burgoa, Ph.D. Resource Conservation District Monterey County

Ann Denise Christy The Ohio State University

Robert S. Freeland The University of Tennessee, Knoxville Larry D. Gaultney E.I. Dupont de Nemours & Co.

Monica Gray Coastal Carolina University

Scott Andrew Hale North Carolina State University at Raleigh

Bingjun Brian He University of Idaho

Van C. Kelley Ph.D., P.E South Dakota State University

Ajay Kumar Oklahoma State University

Joel Ryan Peterson University of Wisconsin -River Falls

Richard Victor Scholtz University of Florida

Donald Carl Slack, Ph.D. University of Arizona

Ernest William Tollner University of Georgia

Stephen Charles Zahos SpectroClick, Inc.

#### ASCE – American Society of Civil Engineers

Caesar Abi Shdid Lebanese American University

Joseph O. Arumala University of Maryland

Eastern Shore

David Brian Ashley University of Dayton Hossein Ataei, Ph.D., P.E

University of Illinois at Chicago

Gouranga Banik University of New Orleans Shannon Bartelt-Hunt University of Nebraska, Lincoln

Terry E. Baxter Northern Arizona University

Deborah Besser University of St Thomas, Saint Paul

Frederick Bloetscher Florida Atlantic University

Phillip E. Borrowman

Dong Chen Purdue University, Fort Wayne

Manoj Chopra University of Central Florida

Anirban De, Ph.D., P.E Manhattan College

Norman Dale Dennis University of Arkansas

Manuel A. Diaz STAR Engineering Group, Inc.

Stephen Francis Duffy Cleveland State University

Utpal Dutta University of Detroit Mercy

William W. Edgerton McMillen Jacobs Associates

Allen C. Estes, Ph.D., P.E., MBA California Polytechnic State University

Heather Mackey Ford Global Training & Events Group LLC

Maury Fortney, M.E., P.E. MEFI Engineering

Fouad Hilmy Fouad University of Alabama at Birmingham

Daba Gedafa University of North Dakota

Bruce Gehrig Western Carolina University

Malav Ghose Haira University of New Orleans

Charles Nathan Haas Drexel University

Scott R. Hamilton York College Pennsylvania

Adrian Thomas Hanson Ph.D, P.E. University of Minnesota Duluth

Mohamed Hegab California State University, Northridge

William H. Highter University of Massachusetts - Amherst

George Mason University

Rivadh Hindi Saint Louis University

Mark Hedrich Houck

Yufeng Hu Western Michigan University

M. R. Islam, Ph.D., P.E. Colorado State University, Pueblo

Camille Issa Lebanese American University

David W. Jensen Brigham Young University

Nickolas S. Jovanovic, P.E. University of Arkansas at Little Rock

Sylvester A. Kalevela, Ph.D., P.E. Colorado State University, Pueblo

Adam Kaplan Kennesaw State University

Patrick C. Kerr U.S. Army Corps of Engineers

Ali Keyvanfar Kennesaw State University M. Iqbal Khan King Saud University

John Khoury Lebanese American University

Sanjeev Kumar Southern Illinois University

> Tanya Kunberger Florida Gulf Coast University

Anthony J. Lamanna Lamanna Engineering Consultants, LLC

Kyle H. Larson Kansas State University

Jay Lee, Ph.D., P.E California Baptist University

Kenneth Lee Western New England University

George Fisher List North Carolina State University at Raleigh

Nancy M. Melby Leo A Daly

LaVere B. Merritt

Levon Minnetvan Clarkson University

> Ahmed Mohamed Indiana State University

Svitlana V. Mooney Civil Line Engineering, LLC

W.Grigg Mullen Jr., Ph.D., P.E. Professor Emeritus. Virginia Military Institute

Krishna H.V. Murthy West Virginia University Institute of Technology

Prahlad N. Murthy, Ph.D., P.E. Wilkes University

Muthusamy Krishnamurthy Hydro Modeling Inc

Robert James O'Neill Florida Gulf Coast University

Yvette E. Pearson Ph.D., P.E Rice University

Michael D. Pniewski Lucas County Engineer's Office

Thomas Bartlett Quimby Quimby & Associates

Mohammad A. Qureshi County of Glenn

Zia Razzag Old Dominion University

Richard (Rich) Alan Reid P.E. South Dakota State University

H. Ronald Riggs University of Hawaii at Manoa

Mary J.S. Roth Lafayette College

James E. Rowings Peter Kiewit Sons Inc

Alv Said Pennsylvania State University

Yasser Salem California State Polytechnic University

Camilla Margaret Saviz University of the Pacific

Ezzeldin Yazeed Sayed-Ahmed Elbawab, Ph.D The American University in Cairo

William Peter Schonberg Missouri University of Science and Technology

Arezou Shafaghat, Ph.D. CIFAL Atlanta -The United Nations Institute for Training and Research (UNITAR)

Thomas C. Sheahan, Sc.D., P.E. Northeastern University

Roger Eugene Snyder USDOE, Office of Science, Pacific Northwest

Camilo Torres Pontifical Xavierian University

Houssam A. Toutanji California State University, Northridge

Moin Uddin, Ph.D. East Tennessee State University

Charles Wayne Unsell Rose State College

Girum Urgessa George Mason University

Mark J. Vanarelli, Ph.D., P.E COVAN Engineering LLC

Christy VanBuskirk Iowa Department of Transportation

Brad Wambeke United States Military Academy

Nur Yazdani The University of Texas at Arlington

Sherif Yehia American University of Sharjah

Scott A. Yost University of Kentucky

Timothy Zeigler Kennesaw State University

Bahar Zoghi Farmingdale State College

Manoochehr Zoghi Purdue University, Fort Wayne ASEE – American Society for **Engineering Education** Duane Abata South Dakota School of Mines and Technology

Vijendra Agarwal Global Solutions and Consulting

Cynthia Wise Barnicki Milwaukee School of Engineering

Charles Edward Baukal Jr. John Zink Co. LLC

David B. Beasley

Deborah Besser University of St Thomas, Saint Paul

Jenna Price Carpenter Campbell University

Stephen H. Cobb Murray State University

Thomas F. Conry, Ph.D., P.E. Professor Emeritus, University of Illinois

Elaine M. Cooney

Indiana University–Purdue University Indianapolis

Frank M. Croft The Ohio State University

Joel M. Esposito United States Naval Academy

Joel Falk University of Pittsburgh

Jeffrey Michael Forbes University of Colorado Boulder

Wilhelm Alexander Friess University of Maine

Wilson T. Gautreaux Trident Technical College

Clay S. Gloster North Carolina A&T State University

Michael Allen Hayden Indiana State University Ivan Lopez Hurtado Northern New Mexico College

Daniel J. Moore Rose-Hulman Institute of Technology

Beth A. Myers University of Colorado Boulder

Danial J. Neebel, Ph.D, P.E. Loras College

Mark L. Nowack College of the Ozarks

Kenneth S. Olree NSpired Engineering, PLLC

Laramie V. Potts New Jersey Institute of Technology

David K. Probst, Ph.D., P.E. Greenville College

Matthew Roberts Southern Utah University

James R. Rowland University of Kansas

Terrence E. Russell

Anca L. Sala Baker College

David Sawyers Ohio Northern University

Catherine King Skokan Colorado School of Mines

Bradley Allen Striebig James Madison University

Binod Tiwari California State University, Fullerton

Mileta Tomovic Old Dominion University

Vassilios Tzouanas University of Houston

Raman M. Unnikrishnan California State University, Fullerton

James Vassil Fairmont State University

Cecelia M. Wigal The University of Tennessee, Chattanooga

David Alan Wyrick West Virginia University

### ASME – American Society of Mechanical Engineers

Mahesh Chand Aggarwal, Ph.D. Gannon University

Mahbub Ahmed Southern Arkansas University

Ruhul Amin Montana State University

Nagamangala K. Anand Texas A&M University

Albert Allen Arthur. M.S. University of Cincinnati

Nael Barakat The University of Texas at Tyler

Oscar Barton Jr., Ph.D., P.E. Morgan State University

Scott Bevill Colorado Mesa University

Abhijit Bhattacharyya, Ph.D Arkansas State University

Luis Manuel Bocanegra Arizona State University

Daisie Boettner Ph.D., P.E J. (Toby) A. M. Boulet, Ph.D. The University of Tennesse,

Knoxville Cynthia Bracht

Marvin Windows & Doors

Jennifer McFerran Brock University of Alaska, Anchorage

Tim Brower, Ph.D. University of Colorado Boulder

Lawrence M. Butkus, Ph.D., P.E U.S. Air Force

Robert James Camp, Ph.D., P.E Massachusetts Maritime Academy

John I. Hochstein University of Memphis

Scott Alan Clary Lockheed Martin

University of Idaho

Scott Danielson, Ph.D., P.E. Arizona State University

Warren Richard DeVries University of Maryland Baltimore County

Charles G. Drake, M.S., P.E. Ferris State University

Seena Drapala

Stephen Ekwaro-Osire Texas Tech University

Hany A. El Kadi Zayed University

Mohamed E. M. El-Sayed, Ph.D. Eastern Michigan University

Aldo Anthony Ferri Georgia Institute of Technology

Lynnane Ellis George University of Colorado, **Colorado Springs** 

Mehrdaad Ghorashi University of Southern Maine

Humberto Arturo Gomez Universidad del Norte

> Matt Gordon University of Denver

Michael Patrick Gordon, P.E. Piper Aircraft, Inc.

Keqin Gu Southern Illinois University, Edwardsville

Mohamed Samir Hefzy University of Toledo

Hisham Hegab Louisiana Tech University

Jeffrey Ray Hill Sandia National Laboratories

John Crepeau Ph.D., P.E.

Timothy M. Hodges Virginia Military Institute

John Hoke Innovative Scientific Solutions Inc

Mounir B. Ibrahim Cleveland State University

Karl I. Jacob Georgia Institute of Technology

Diane Jakobs Rheem Manufacturing Company

Michael Gregory Jenkins California State University, Fresno

Jared W. Jensen Chevron Corporation

Thomas R. Jurczak

Imin Kao Stony Brook University

Amir Karimi The University of Texas at San Antonio

Mansour Karkoub Texas A&M University at Qatar

Mary Kasarda, Ph.D. Virginia Polytechnic Institute and State University

Michael Keefe University of Delaware

Sanjeev K. Khanna University of Missouri-Columbia

K. Krishnamurthy Missouri University of Science and Technology

Cesar Levv Florida International University

Jianyu Liang Worcester Polytechnic Institute

Thomas Litzinger Pennsylvania State University

Mark D. Lower, Ph.D., P.E. UT-Battelle, LLC.

Annette Marie Lynch Woodward, Inc.

Eric R. Marsh Pennsylvania State University

Georg Franz Mauer University of Nevada, Las Vegas

Richard Melnyk United States Military Academy

Brad A. Miller Harding University

Shane Alan Moeykens University of Maine

Kenneth Dale Moore GE Power

Ala Moradian Applied Materials Inc.

Karim Janan Nasr University of Balamand

Amir Frank Nassirharand Central Ohio Technical College

David A. Nelson University of South Alabama

Agbai (George) Agwu Nnanna The University of Texas of the Permian Basin

Dennis O'Neal, Ph.D., P.E. **Baylor University** 

Bipin Pai, Ph.D. Professor Emeritus, Purdue University Northwest

Matt Anthony Panhans Milwaukee School of Engineering

Robert Wendell Pitz Vanderbilt University

Glen Prater University of Louisville

Muhammad Mustafizur Rahman Wichita State University

James Woodson Ramsey University of Minnesota, Twin Cities

Shivakumar I. Ranganathan Virginia Polytechnic Institute and State University

T. S Ravigururajan Wichita State University

John R. Reisel University of Wisconsin - Milwaukee

Richard T. Roca Johns Hopkins University Applied Physics Laboratory

Hector M. Rodriguez GE Research

Muthukrishnan Sathyamoorthy The University of Texas at Tyler

George John Shay PE Alliance LLC

James R. Sherrard Marine/Ocean Engineering Consulting (Various)

Thomas Singer, M.A. Sinclair Community College

Andrew Neil Smith United States Naval Academy

Joshua David Summers Clemson University

Wangping Sun Oregon Institute of Technology

Sriram Sundararajan Iowa State University

Gunnar Tamm United States Military Academy

Siva Thangam Stevens Institute of Technology

Tim Thomas Pittsburg State University

Mohamed B. Trabia University of Nevada, Las Vegas

Angela Trego, Ph.D., P.E. Practical Aeronuatics

Jerry Ihor Tustaniwskyj University of California -San Diego

Keshav S. Varde University of Michigan Jyhwen Wang Texas A&M University

Richard Currey Warder Jr. University of Memphis

Steven E. Wendel Sinclair Community College

William J. Wepfer Ph.D. Professor Emeritus, Georgia Institute of Technology

Wayne E. Whiteman Georgia Institute of Technology

Ahmet S. Yigit Kuwait University

Garry G. Young, M.S., MBA, P.E. Entergy Nuclear

Mohammad A. Zahraee Purdue University

Paul Henry Zang Kettering University

Mohamed Zarrugh, Ph.D. Professor Emeritus. James Madison University

### ASSP - American Society of Safety Professionals

Magdy Akladios University of Houston

Mehdi Khalighi Millersville University of Pennsylvania

Wanda D. Minnick Indiana University of Pennsylvania

Jack O. Ogutu Millersville University of Pennsylvania

Sathyanarayanan Rajendran, Ph.D. Central Washington University

Katherine Elizabeth Schofield University of Minnesota-Duluth

#### BMES – Biomedical **Engineering Society**

Ziad O. Abu-Faraj, Ph.D. Khayal Production -**Qatar** Foundation

Paul J. Benkeser, Ph.D. Georgia Institute of Technology

Daniel Cavanagh, Ph.D. Bucknell University

Cheng-Jen Chuong The University of Texas at Arlington

Ayman Sabry El-Baz University of Louisville

Thomas H. Everett Indiana University–Purdue University Indianapolis

Daniel L. Ewert North Dakota State University

John D. Gassert, Ph.D., P.E. Professor Emeritus, Milwaukee School of Engineering

Greg Thomas Gdowski University of Rochester

Robert Christopher Geiger Florida Gulf Coast University

Robert T. T. Gettens Western New England University

Paul N. Hale Jr., P.E. Louisiana Tech University

Connie L. Hall The College of New Jersey

Isgard Hueck, M.S. University of California -San Diego

Peter G. Katona George Mason University

Paul Harvey King Vanderbilt University

Jeffrey Alan LaMack Milwaukee School of Engineering

Scott Molitor University of Toledo Deborah Susan Munro Munro Medical, LLC

Ruth Ochia Temple University

Cynthia Paschal, Ph.D. Vanderbilt University

Marcia Anne Pool University of Illinois, Urbana-Champaign

Rai R. Rao University of Arkansas

Mark Ruegsegger The Ohio State University

Maher Sabbah Rafik Hariri University

Artin Andrew Shoukas Johns Hopkins University

John W. Steadman, Ph.D., P.E University of South Alabama

Charles S. Tritt

Mark Jacob Uline University of South Carolina

Ali Vahdati East Carolina University

Hans van Oostrom University of Florida

> Deborah Suzanne Wells Neuprene, Inc.

Bruce C. Wheeler University of California -

San Diego Wujie Zhang Milwaukee School of Engineering

### CMAA – Construction Management Association of America

Chi Kwan Fong Facilities Planning Design Construction, Cal Poly Pomona

Bruce D. Gordon Johnson, Mirmiran ይ Thompson (JMT)

Milwaukee School of Engineering

Anthony David Greiner Hazen & Sawyer, PC

Kevin W. Love, P.E. Jacobs

Case Runolfson American Institutes for Research

Richard Lee Rye RICHARD L RYE, Consulting, LLC

Mohsin Khalid Siddiqui University of Delaware

### CSAB

Emad H. Aboelela Northeastern University

Ali M. Abuelhumos, Ph.D. Jackson State University

Kevin MacGregor Adams University of Maryland Global Campus

Ankur Agrawal Manhattan College

Shakil Akhtar Clayton State University

Ala Al-Fuqaha Western Michigan University

Ronald Craig Arkin Georgia Institute of Technology

Senthil Athithan Mody University of Science and Technology

Moussa Ayyash Chicago State University

Jeffry Babb West Texas A&M University

Cynthia Baker American University of Sharjah

Aziz Melhem Barbar, Ph.D. American University of Science and Technology

Catherine Bareiss Bethel University

Robert E. Beck Villanova University

Nahla Ahmed Belal Arab Academy for Science, Technology and Maritime Transport

Michael W. Berry The University of Tennessee

Benjamin Jude Bishop University of Scranton

Dennis Bouvier, Ph.D. Southern Illinois University, Edwardsville

Peter Brass The City College of New York - CUNY

Peter Brink kVA by UL

Juanita Brooks Middle Tennessee State University

Richard Cai Colorado Technical University

Lillian Cassel Villanova University

Albert Chan Fayetteville State University

Kai H. Chang Auburn University

Jeffrey Chastine Kennesaw State University

Sutap Chatterjee Verizon

Jason W. Christian Liberty University

Aran Vincent Clauson Western Washington University

Maxine S. Cohen Nova Southeastern University

Nicholas Andrew Coleman Austin Peay State University

Bill Dafnis, Ph.D. Seminole State College of Florida

Kevin Daimi University of Detroit Mercy Charles H. Dana California Polytechnic State University

Venu Gopal Dasigi Bowling Green State University

Ruth E. Davis Santa Clara University

Bret J. Detillier University of Houston

Charles Dierbach, Ph.D. Towson University

Laura K. Dillon Michigan State University

Alexa N. Doboli Stony Brook University

David Donahoo Liberty University

Armin Eberlein German University of Technology in Oman (GUtech)

Jesse Eickholt Central Michigan University

El-Sayed M. El-Alfy King Fahd University of Petroleum and Minerals

Mohamed El-Attar, Ph.D. Alfaisal University

Omar El-Gayar Dakota State University

Khaled ElMahgoub Philips

Hossny Elsherief University of California - Riverside

Tracy L. Emmersen United States Navy

Richard Enbody Michigan State University

Carlos Ferran Governors State University

Guillermo A. Francia III, Ph.D. The University of West Florida

Jean H. French Coastal Carolina University

Muztaba Fuad Winston-Salem State University

Janos Tibor Fustos Metropolitan State University of Denver

Ruben Gamboa, Ph.D. University of Wyoming

Anchal Garg Amity University Uttar Pradesh

Deepak Garg Bennett University - Noida

Michael A. Gennert Worcester Polytechnic Institute

Tirthankar Ghosh The University of West Florida

Tanya Goette Georgia College and State University

> Mary J. Granger, Ph.D. Professor Emeritus, George Washington University

> George H. Hamer South Dakota State University

Drew Hamilton Mississippi State University

Chia Y. Han University of Cincinnati

Ramzi A. Haraty Lebanese American University

Jim E. Helm Arizona State University

Jeffrey Hemmes **Regis University** 

Jayantha Herath Saint Cloud State University

Craig Holcomb

Mark A. Holliday Western Carolina University Thomas B. Horton University of Virginia

Mohammad Anwar Hossain King Saud University

Daging Hou Clarkson University

Gurdeep Hura University of Maryland Eastern Shore

Alireza Hurson Missouri University of Science and Technology

Seifedine Kadry Yeshi Group

Ken Edward Kennedy BMW

Haklin A. Kimm East Stroudsburg University of Pennsylvania

Stan Kurkovsky Central Connecticut State University

Kadathur B. Lakshmanan SUNY College at Brockport

Lesley Pek Wee Land University of New South Wales

Lisa Marie Landgraf, Ph.D. University of Wisconsin, Platteville

Ted Lehr Texas State University

Paul M. Leidig Grand Valley State University

Grace A. Lewis Software Engineering Institute, Carnegie Mellon University

Peng Li East Carolina University

Akhtar Lodgher Texas A&M University

Wilfredo E. Lugo Hewlett Packard Enterprise

Xun Luo Tianjin University of Technology Pruthikrai Mahatanankoon Illinois State University Qusay H. Mahmoud

University of Ontario Institute of Technology

Kenneth E. Martin, Ph.D. Professor and Founding Director Emeritus, University of North Florida

Nancy L. Martin Southern Illinois University

Md Mehedi Masud Taif University

Manton Matthews University of South Carolina

Russell McMahon University of Cincinnati

Fortune S. Mhlanga Meharry Medical College

Osama A. Morad University of Maryland Global Campus

Keith A Morneau, Ed.D. ECPI University

Kristine Susanne Nagel Georgia Institute of Technology

Vijay K. Naik IBM

Juan Arturo Nolazco-Flores, Ph.D. Monterrey Institute of Technology Andrew Nuxoll, Ph.D. University of Portland

Lawrence Joseph Osborne Lamar University

Mohammed Ouali Thales Canada Inc.

Lorraine Parker Virginia Commonwealth University

Lynn M. Peterson, Ph.D. The University of Texas at Arlington

Annu Prabhakar University of Cincinnati

Ahmad A. Rabaa'I, Ph.D. American University of Kuwait

Anne-Louise Radimsky, Ph.D. California State University, Sacramento

Hridesh Rajan Iowa State University

Donna Reese, Ph.D. Professor Emeritus. Mississippi State University

Thomas J. Reichlmayr Rochester Institute of Technology

Brian J. Reithel University of Mississippi

Penny Rheingans University of Maine

Derek Riley Milwaukee School of Engineering

Mary Ann Robbert Bentley University

Carol J. Romanowski Rochester Institute of Technology

Mihaela Sabin University of New Hampshire at Manchester

Thomas Michael Schmidt Pace University

Chandra N. Sekharan Loyola University Chicago

Mohan Sellappa Gounder, Ph.D. University of the South Pacific

Narasimha K. Shashidhar Sam Houston State University

Sung Y. Shin South Dakota State University

Sajjan G. Shiva, Ph.D. Sajjan Shiva

William D. Shoaff Florida Institute of Technology

Robert H. Sloan University of Illinois at Chicago Kevin Smith Al Akhawayn University

Nigamanth Sridhar Cleveland State University

Ramalingam Sridhar University at Buffalo

Amanda Stent Bloomberg

Jon Sticklen Michigan Technological University

Mark Stockman University of Cincinnati

Cheryl Swanier Claflin University

Chia-Chi Teng Google

Massood Towhidnejad Embry-Riddle Aeronautical University

Goran Trajkovski Western Governors University

Quoc-Nam Tran Southeastern Louisiana University

Helmuth Trefftz Universidad EAFIT

Raymond E. Trygstad Illinois Institute of Technology

Joseph Edward Urban Arizona State University

Joseph Patrick Van Metre The MITRE Corporation

Vani Vasudevan University of the South Pacific

Ping Wang Robert Morris University

Ye Diana Wang George Mason University

Yong Wang Dakota State University

Richard Alex Wasniowski

Patrick Widener Sandia National Laboratories

Robin Williams

Mary Jane Willshire, Ph.D. Capella University

Mudasser Fraz Wyne National University

Adnan H. Yahya Birzeit University, Palestine

Yonggao Yang Prairie View A&M University

Fenghui Yao Tennessee State University

Peter ChunYu Yau Cogaza Investment

Daniel Wayne Yoas Pennsylvania College of Technology

Chi Zhang Kennesaw State University

Sen Zhang SUNY Oneonta

Zuopeng (Justin) Zhang University of North Florida

### IEEE – Institute of Electrical and Electronics Engineers

James Vincent Aanstoos Iowa State University

Mostafa Ibrahim Abd-El-Barr Kuwait University

Ikhlas M. Abdel-Qader Western Michigan University

Ali Abedi University of Maine

Imad Abouzahr Oklahoma State University

Reza Adhami University of Alabama in Huntsville

Geoffrey Akers The College of the Ozarks Raida S.K. Al-Alawi, Ph.D. **BFG** International

Nasser Alaraje University of Toledo

Trevor Michael Allen

Rocio Alba-Flores Georgia Southern University

General Dynamics Rustin W. Allred

**RWB** Aerospace Professionals Khalid S. Al-Olimat

Ohio Northern University

John O. Attia, Ph.D., P.E. Prairie View A&M University

Rafic A Bachnak Pennsylvania State University

Ganesh Balakrishnan University of New Mexico

Joseph Anthony Bannister Aerospace Corp.

Rajeev Bansal University of Connecticut

Carl William Baum Clemson University

G. Thomas Bellarmine Florida A&M University

Luigi Benedicenti University of New Brunswick

Karen M. Bloch DuPont Company

Edit J. Bourgeois University of New Orleans

Michael Brodsky U.S. Army Research Laboratory

Cameron Kevin Bruce Cameron Bruce PE Consulting

J. W. Bruce Tennessee Technological University

Karen Latrise Butler-Purry Texas A&M University

Carlos Cabrera Miami Dade College

Maria Gabriela Calle Universidad del Norte

Sean M. Carroll

Trine University

Steven Case Walden University

**Richard** Cliver Rochester Institute of Technology

Daniel Patrick Connors East Tennessee State University

James Michael Conrad University of North Carolina at Charlotte

Kenneth W. Cooper Ottawa University

Jorge Crichigno University of South Carolina

Paul Benjamin Crilly United States Coast Guard Academy

Jose Bejar Cruz University of California - Irvine

Issam W. Damaj Beirut Arab University

Patricia D. Daniels Seattle University

Thomas Edward Dean Analog Devices, Inc.

Russell J. Deaton University of Memphis

Ronald R. DeLvser University of Denver

Dennis James Derickson California Polytechnic State University

Alen Docef Virginia Commonwealth University

Curtis W. Dodd

James Dreiling General Dynamics Mission Systems

Gusteau Duclos DeVry College of New York

Eric Durant Starkey Hearing Technologies

Imad Hanna Elhajj American University of Beirut

Hossny Elsherief

Charles B. Fleddermann

Sam K. Formby, Ph.D.

Adel Gastli University of Qatar

Lauren E. Gaunt Eversource Energy

> Abu Dhabi University Prasanta K. Ghosh

Syracuse University John Golzy

DeVry University Cesar A. Gonzales Virgilio Gonzalez, Ph.D.

The University of Texas at El Paso

Manimaran Govindarasu Iowa State University

John N. Gowdy Clemson University Jeffery L. Gray

Purdue University Christopher S. Greene University of St. Thomas, St. Paul

Ilya Grinberg

Bryan David Griner Southern Nuclear

Frances Harackiewicz Southern Illinois University, Carbondale

University of California - Riverside

University of New Mexico

Mohammed Ghazal

SUNY Buffalo State College

Bruce Albert Harvey Florida A&M University -Florida State University

Gregory L. Heileman University of Arizona

Orlando Hernandez The College of New Jersey

Gerald Thomas Heydt Arizona State University

Warren R. Hill Weber State University

Jonathan Holden Raytheon

Jason K. Hui Elbit Systems of America

Frederic M. Hulett

Charles E. Hunt University of California - Davis

Walid Ibrahim United Arab Emirates University

Mohammad Ilvas Florida Atlantic University

John Impagliazzo

Rakibul Islam Dura Automotive

Brent Jenkins Kennesaw State University

Ahmed E. Kamal Iowa State University

Barbara Humm Kenny

Charles C. Kidder, P.E. Curious System Solutions, LLC

Ozlem Kilic The University of Tennessee

Hakduran Koc University of Houston

Thomas H. Kuckertz

Joseph Kujawski Kujawski Consulting

83

Mary Yvonne Lanzerotti Virginia Polytechnic Institute and State University

Paul Steven Lewis Edgewater Technologies

Chao Li Florida A&M University

Douglas Lyon Fairfield University

Phanindra K. Mannava, Ph.D. ARM

Mahmoud A. Manzoul Jackson State University

Mary Marchegiano, M.S.

Eric Martin Thermo Fisher Scientific

Terry Martin University of Arkansas

Derek Maxey Lockheed Martin

W. Vance McCollough University of Massachusetts - Dartmouth

Claire McCullough The University of Tennessee

Jeffrey Andrew McWhirt, P.E. Digital Realty

Kathleen Meehan California State University, Chico

Russ Meier, Ph.D. Milwaukee School of Engineering

Sigurd Meldal, Sc.D. Mostly Sunny

Cyrilla Jane Menon Danlaw, Inc.

Scott Fugate Midkiff Virginia Polytechnic Institute and State University

Andrew E. Milks University of Akron Tony L. Mitchell, Ph.D. North Carolina State University at Raleigh

Jeff Mizener Siemens Industry, Inc.

Omonowo David Momoh, Ph.D. Purdue University, Fort Wayne

Kevin L. Moore Colorado School of Mines

James Moore Spire Inc.

Tyrone Eugene Moore Air Force Research Laboratory

J. Derald Morgan

J. Derald Morgan & Associates, Inc

S. Hossein Mousavinezhad, Ph.D., ΡF Idaho State University

Gary J. Mullett Springfield Technical Community College

George E. Nasr Lebanese American University

Elias Nassar, Ph.D. Notre Dame University-Louaizé

Balasubramaniam Natarajan Kansas State University

Phyllis R. Nelson California State Polytechnic University

Victor P. Nelson Auburn University

Kundan Nepal University of St. Thomas, Saint Paul

Terri W. Noel IBM

Franc E. Noel IBM

Sima Noghanian American Public University System Paul Alton Nussbaum, Ph.D. ECPI University

Simon Obeid DeVry University, Orlando

John Thomas Oldenburg California State University, Sacramento

Aurenice Menezes Oliveira Michigan Technological University

James D. Oliver Jr. Northrop Grumman

Efrain O'Neill-Carrillo University of Puerto Rico - Mayaguez

John A. Orr Worcester Polytechnic Institute

Glenn Parker Georgia Tech Research Institute

Cameron Patterson Virginia Polytechnic Institute and State University

Christopher Peckham Business Intelligence, Inc.

Reginald J. Perry Florida A&M University -Florida State University

David W. Peters Sandia National Laboratories

Stephen M. Phillips, Ph.D., P.E. Arizona State University

Robi Polikar, Ph.D Rowan University

Jay Porter Texas A&M University

Sarah A. Rajala Iowa State University

S. K. Ramesh, Ph.D. California State University, Northridge

Miguel Angel Ramirez Northrop Grumman Corporation

Jeewika Ranaweera Oracle Corporation

Muhammad H. Rashid, Ph.D. Florida Polytechnic University

Anton Riedl Christopher Newport University

Brian Rigling Wright State University

Richard A. Rikoski Technical Analysis Corp.

Teresa Louise Roberts

Perry Joe Robertson Sandia National Laboratories

Ghassan A. Salim, M.S. California University of Pennsylvania

Juan H. Sanchez Mendez University of Puerto Rico - Bayamon

Sumam David Sarah National Institute of Technology Karnataka, Surathkal

Saleh M. Sbenaty Middle Tennessee State University

Walter William Schilling Milwaukee School of Engineering

Henry Selvaraj University of Nevada, Las Vegas

Hesham Shaalan United States Merchant Marine Academy

David Paul Shattuck University of Houston

Lisa A. Shay Cooper Union for the Advancement of Science and Art

Mukul V. Shirvaikar The University of Texas at Tyler

Massoud Sinai Raytheon

Timothy L. Skvarenina, P.E.

University of Puerto Rico - Mayaguez Cherrice Traver

Union College Nick Tredennick

> Gilder Publishing Akhilesh Tyagi Iowa State University

Raman M. Unnikrishnan California State University, Fullerton

# Craig Smith Austin Energy

James A. Smith

Vincent P. Socci

Arun K. Somani

Paul Stadnik

Gary D. Steffen

Keith A. Teague

Robert D. Throne

of Technology

Mani Soma

John L. Vian, Ph.D., P.E. The Boeing Company

NASA Goddard Space Flight Center Christopher J. Smith

SUNY Binghamton University

University of Washington

Iowa State University

Scott Keith Springer

Micro Systems Engineering

Purdue University, Fort Wayne

Guru Subramanyam University of Dayton

Suga N. Suganthan DeVry University

Nikunja Kishore Swain South Carolina State University

Oklahoma State University

Gerald H. Thomas, Ph.D. Milwaukee School of Engineering

Rose-Hulman Institute

Raul Edmir Torres Muñiz

Robert J. Voigt Northrop Grumman Corporation Mission Systems

Ron S. Waters Consultant

Dong Wei ARM

Mark H. Weichold Texas A&M University

Robert Weissbach Indiana University–Purdue University Indianapolis

Michael Scott Wilcox Microsoft

Stephen Michael Williams Milwaukee School of Engineering

Brian Donald Woerner, Ph.D. West Virginia University

Raphael W.H. Wong, M.S. Private Consultant

Sally Louise Wood Santa Clara University

Ece Yaprak, Ph.D. Wayne State University

Raef R. Yassin Miami Dade College

H. Oner Yurtseven

Gengsheng Lawrence Zeng, Ph.D. University of Utah

Wenbing Zhao Cleveland State University

IISE – Institute of Industrial and Systems Engineers

Ali Ahmad Louisiana's Community and Technical Colleges

Adedeji Bodunde Badiru Air Force Institute of Technology

Amarnath Banerjee Texas A&M University

Bopaya Bidanda, Ph.D. University of Pittsburgh

Garry D. Coleman Transformation Systems, Inc.

Terry R. Collins Oklahoma State University

Johann Demmel

Gene Dixon, Ph.D. East Carolina University

Ted Eschenbach TGE Consulting

Paul F. Evangelista United States Military Academy

George Patrick Gardner Virginia Department of Transportation

Omar Ghrayeb Northern Illinois University

Timothy J. Greene Western Michigan University

Ann T. Green-Terrell United Parcel Service (UPS)

Keith A. Johnson, MBA, P.E. Dominion Energy Utah

Paul J. Kauffmann East Carolina University

Thomas Keyser Oregon Institute of Technology

C. Patrick Koelling Virginia Polytechnic Institute and State University

Gül E. Kremer Iowa State University

Mary Beth Kurz Clemson University

Jerome Philip Lavelle, Ph.D. North Carolina State University at Raleigh

Kirk Lindstrom, MBA, P.E. Salt Lake County

86

Matthew Marshall Rochester Institute of Technology K. Jo Min Iowa State University

Richard M. Morris, Ph.D.

Edward Pines New Mexico State University

Jayant Rajgopal University of Pittsburgh

Stephen A. Raper

University of Nebraska, Lincoln

Raytheon Company

Bowling Green State University

Carlos Alberto Solorio Magana

Central Pennsylvania Food Bank

The University of Texas Rio Grande Valley

John M. Usher Ph.D., P.E Mississippi State University

David Alan Wyrick West Virginia University

Nabeel Yousef Daytona State College

Georgia Institute of Technology

Bala Ram North Carolina A&T

Missouri University of

William Kendal Roberts

MD B. Sarder

Susan O. Schall, Ph.D SOS Consulting, LLC

Susan Steadman

Douglas Harvey Timmer, Ph.D.

State University

Science and Technology

Michael W. Riley

Terry Schmidt

**CETYS** University

Chen Zhou

Imelda Cossette Edmonds Community College

Swaminathan Balachandran

Walter Buchanan, Ph.D., J.D., P.E.

**INCOSE - International Council** 

Air Force Institute of Technology

- Graduate School of Engineering

Systems and Software Engineering

on Systems Engineering

John M Colombi, Ph.D.

& Management

Associates (S2EA)

of Automation

Robert P. Kosar

ISA

Grand Isle Group

Albert Lozano-Nieto

Elden A. Plettner, MBA

Professional Surveyors

Brian Naberezny

Pennsylvania State University

NSPS – National Society of

Jeffery Pereira Hollingsworth

Pennsylvania State University

Marlee Ann Walton P.E., PLS

Iowa State University

Peter D. Jones, Ph.D., P.E.

**SAE International** 

Auburn University

Daniel Skurski, M.S.

Texas A&M University

SME

Alpha Pi Mu

Steve Coe

Michigan Technological University

Kelvin Todd Erickson

Missouri University of

Science and Technology

Muhammad Faysal Islam

ISA - International Society

George Washington University

Dick Fairley

Robert William Dummer

Ismail Fidan, Ph.D. Tennessee Technological University

John L. Irwin Michigan Technological University

Swatantra Kumar Kachhal University of Michigan

Paul D. Plotkowski Grand Valley State University

Chittaranjan Sahay University of Hartford

Daniel Gordon Sanders The Boeing Company

Kolleen L Schneider Andersen Corporation

Iqbal Shareef, P.E. Bradley University

Jyhwen Wang Texas A&M University

# SME-AIME - Society for Mining, Metallurgy, and Exploration

Jurgen F. Brune, P.E. Colorado School of Mines

John S. Gierke Michigan Technological University

Earl R. Hoskins Texas A&M University at Oatar

George W. Luxbacher National Institute for Occupational Safety and Health

Manoj K. Mohanty University of Nevada, Reno

Philip A. Schenewerk The Lacombe Group, LLC

# SNAME – Society of Naval Architects and Marine Engineers

Richard Burke SUNY Maritime College

Benedict Paul Capuco Gibbs & Cox, Inc

Edward Vincent Clancy IPLaw Colorado

Thomas William DeNucci United States Coast **Guard Academy** 

Ralph Edward Johnson National Transportation Safety Board

Peter D. Jones, Ph.D., P.E. Auburn University David Joseph Palmer United States Merchant

Marine Academy

Wei Qiu Memorial Universaty of Newfoundland

Daniel P. Rogers United States Coast Guard

Katherine Terwilliger, M.S. Naval Surface Warfare Center - Carderock Division

### SPE - Society of Petroleum Engineers

Kashy Aminian West Virginia University Abhijit Yeshwant Dandekar

Ronald Hinn Jr. PetroSkills

and Minerals

Halliburton

Robello Samuel

University of Alaska Fairbanks

Shirish L. Patil, Ph.D. King Fahd University of Petroleum

SPIE – The International Society for Optics and Photonics

Liubov Kreminska The City College of New York - CUNY

TMS – The Minerals, Metals, and Materials Society Diane Elizabeth Albert The Law Office of Diane Albert Emily L. Allen, Ph.D. California State University, Los Angeles

Thomas R. Bieler, Ph.D. Michigan State University

Carl Joseph Boehlert Michigan State University

Stephen H. Carr Northwestern University

James Ciulik Laser Welding Solutions

Jeffrey W. Fergus, Ph.D. Auburn University

Biman Ghosh Rockwell Automation

Ronald Gibala University of Michigan

William F. Hammetter Sandia National Laboratories

M.D. Mathew Saintgits College of Engineering

Jonn Bryant Nebbe Eaton Corporation

Murray Grant Norton Washington State University

Alison Polasik Campbell University

Matthew P. Sherburne University of California - Berkeley

Raghu Srinivasan Wright State University

Harrie J. Stevens, Ph.D. Professor Emeritus. Alfred University

Pello Uranga CEIT

Devarajan Venugopalan University of Wisconsin, Milwaukee

Steven M. Yalisove, Ph.D. University of Michigan

# **ABET PROFESSIONAL STAFF**

# Executive

Executive Director, Chief Executive Officer Michael K.J. Milligan, Ph.D., P.E., CAE

**Special Advisor** Larry A. Kaye\*, Ph.D.

**Special Advisor** Alaa Ashmawy\*, Ph.D., P.E.

Director, International Engagement And Governance Daniela Iacona, CAE

Executive Assistant to the CEO Daisy Chan

Specialist, Board Operations Francie Griffith

# Accreditation

Chief Accreditation Officer, Chief Information Officer Joseph L. Sussman, Ph.D., F.ASME

Senior Director, Accreditation Operations Jane Emmet, M.A.T.

Adjunct Director. Accreditation Operations Maryanne Weiss

Adjunct Accreditation Director M. Kantha Reddy\*

Manager, Accreditation Ellen Stokes

Manager, International Accreditation Sherri Hersh

Coordinator. International Accreditation Anna Karapetyan

Assistant to the Chief Accreditation Officer and Quality Management System Coordinator Beth Mundy

Specialist, Accreditation Bryna Ashley

Accreditation Assistant Shaina Lennon

Applied and Natural Science Accreditation Commission (ANSAC)

Adjunct Accreditation Director, **Applied and Natural Science** Amanda Reid, J.D.

Computing Accreditation Commission (CAC)

Adjunct Accreditation Director, Computing Harold Grossman\*, Ph.D.

Engineering Accreditation Commission (EAC)

Adjunct Accreditation Directors, Engineering

M. Dayne Aldridge\*, Sc.D., P.E.

Douglas R. Bowman\*, Ph.D., P.E.

Susan E. Conry\*, Ph.D.

Winston F. Erevelles\*, Ph.D.

**Engineering Technology** Accreditation Commission (ETAC)

Adjunct Accreditation Director, **Engineering Technology** Frank Hart\*, P.E., P.S.

**Constituent Relations** 

**Director, Constituent Relations** James A. Ingram II

Training Adjunct Director, Training

Stan Thomas\*, Ph.D.

Manager, Training Ashley Appleman

Coordinator, Training Veronica Sigai

Information Management

Senior Director, Information Management Joe Luksic

Software Architect Hwan-Kyung Chung

Software Applications Developer Shane Knudsen

Michael Marshall

Front End Software Applications Developer Shannon Fitzgerald

Front End Web Developer Cameron Avelis

Coordinator, Helpdesk Nicholas Ryan

**Quality Assurance Analyst** Sukriti Baral

Communications and Marketing

**Director, Communications** and Marketing Lisa Lance, M.A.

Senior Manager, Communications and Marketing Daniel Losapio

Specialist, Communications and Content Adrienne Gonzalez

**Graphic Designer** Patrick Rice

\* Independent contractor

# **Finance and Operations**

Chief Financial Officer, Chief Operating Officer Jessica Silwick, CPA, MBA, CAE

Senior Adjunct Director, Professional Offerings Gloria Rogers, Ph.D.

Adjunct Directors, Professional Offerings Daina Briedis, Ph.D.

James N. Warnock, Ph.D.

Director, Human Resources and Operations Rachelle Daucher, PHR, SHRM-CP

Senior Manager, Accounting Kimberly Turner

Manager, Brand and Events Susan Parker

Specialist, Facilities Management Troy Wadzink

Coordinator, Human Resources and Program Offerings Chris Russo

Senior Accountant Kari Kishiyama

Staff Accountant Kayla Raut

Assistant to the Chief Financial Officer, Chief Operations Officer and Office Support Specialist Vida Reboca

Accounting Clerk Anthony Swiecicki



415 N. Charles St. Baltimore, MD 21201 USA Phone: +1 410 347 7700 www.abet.org

Copyright<sup>®</sup> 2021 by ABET All rights reserved.