Best Practices Resource Guide

Members of Society Advancing an Inclusive Culture (MOSAIC)

Editors Lisa M. Black, Ph.D., Aff.M.ASCE Yvette E. Pearson, Ph.D., P.E., F.ASCE Andrew Curtis Elmore, Ph.D., P.E., F.EWRI, F.ASCE Carol Martsolf, P.E., F.ASCE Quincy G. Alexander, M.ASCE



September 2021



MOSAIC contributors

Quincy G. Alexander, M.ASCE Timothy Alston, A.M.ASCE Alexandra Berk, A.M.ASCE Mehmet Boz, Ph.D., P.E., M.ASCE Kim Parker Brown, P.E., F.ASCE Guillermo Diaz-Fanas, Ph.D., C.Eng, P.E. John Doyle Jr., P.E., A.M.ASCE Andrew Curtis Elmore, Ph.D., P.E., F.EWRI, F.ASCE Elise Ibendahl, P.E., F.ASCE April Lander, MEM. JP, ENV SP, A.M.ASCE Yanan Ma, Ph.D., P.E., M.ASCE Carol Martsolf, P.E., F.ASCE, MOSAIC Vice Chair Catherine Martsolf, LEED AP BD C, A.M.ASCE Frederick Paige, Ph.D., EIT, A.M.ASCE Yvette E. Pearson, Ph.D., P.E., F.ASCE, MOSAIC Chair Gajanan Sabnis, P.E., Dist.M.ASCE Danielle Schroeder, P.E., A.M.ASCE, ENV SP Suzanne Trabia, P.E., A.M.ASCE Saki Urushidani, Aff.M.ASCE Moises Young Jr., M.ASCE

ACKNOWLEDGMENTS

The development of this *Best Practices Resource Guide* has truly been a labor of passion and commitment for all involved in its creation. The MOSAIC executive team is deeply grateful to all those who committed time, in some cases valuable family time, to contribute their knowledge and perspectives, including those who researched, reviewed, and assembled the content and resources contained herein.

Drafts of the Diversity, Equity, and Inclusion (DEI) Best Practices Resource Guide were reviewed by individuals who were selected based on their research and practical areas of expertise, which cover DEI for a range of identities and issues in engineering education and practice. The aim was to ensure the content was robust and consistent with the existing knowledge base and that it will be responsive to the needs of all stakeholders it has the potential to impact.

We gratefully acknowledge the following reviewers for their immeasurable contributions to this project:

Sheryl Burgstahler, Ph.D., Founder & Director DO-IT and Accessible Technology Services University of Washington

James Holly Jr., Ph.D., Assistant Professor Department of Mechanical Engineering Wayne State University

Stephen D. Secules, Ph.D., Assistant Professor School of Universal Computing, Construction and Engineering Education Florida International University

Denise R. Simmons, Ph.D., P.E., M.ASCE, Associate Professor Engineering School of Sustainable Infrastructure and Environment University of Florida

Idalis Villanueva, Ph.D., Associate Professor Department of Engineering Education University of Florida

We extend a special thank you to ASCE staff who contributed to this project: Susan Blodgett and Jane Howell for their marketing and communications support; Haydee Gusler for designing the guide; Ben Walpole, Roxann Henze-Gongola, Julia Goswick, Michelle English, and Michele Esposito for their editorial support and Brian Foor for his web expertise.



PREFACE

Importance of diversity, equity, and inclusion in civil engineering

Civil engineers are problem solvers. One critical element that cannot be overlooked is that civil engineers solve problems for society. Society is made up of people – people from diverse backgrounds, identities, and cultures; people who have diverse interests and needs. In order for civil engineering solutions to serve society well, they need to include perspectives that are representative of a society's rich diversity. That requires engaging people from more diverse backgrounds in the civil engineering profession and ensuring that they solve problems with, not just for, the communities they serve.¹

Former National Academy of Engineering President William Wulf stated it this way:

Every time we approach an engineering problem with a pale, male design team, we may not find the best solution. We may not understand the design options or know how to evaluate the constraints; we may not even understand the full dimension of the problem ... by failing to attract a diverse engineering workforce, we diminish what engineering can contribute to society, and society pays an opportunity cost.²

ASCE's commitment to diversity, equity, and inclusion

ASCE has demonstrated increasing commitment to diversity, equity, and inclusion (DEI) over the past three decades. In the mid-1990s the Board of Direction charged a special task committee, Committee on Diversity and Women in Civil Engineering (CDWCE), to explore strategies focused on creating a more diverse profession. CDWCE evolved from a task committee to the Committee on Diversity and Inclusion (CDI) in the mid-1990s. Members of CDI authored Canon 8 of ASCE's Code of Ethics, which formally introduced DEI as a matter of professional practice when adopted by the Board of Direction in 2017. Key principles of Canon 8 included requirements for engineers to treat everyone with dignity, respect, and fairness; to avoid discrimination and harassment; and, unique to ASCE's Code, to consider the diversity of the community and endeavor to engage diverse perspectives in their work. These principles were carried forward in the 2020 Code of Ethics revision.

In 2019, CDI was sunset and Members of Society Advancing an Inclusive Culture (MOSAIC) was established as a Board-level body to provide the Society with leadership in all matters of diversity, equity, and inclusion (DEI) within the civil engineering profession.³

¹Pearson, Y. E., and Simmons, D. R. 2018. "Diversity and inclusion in civil engineering education and practice: Special collection." *J.* ²*Prof. Issues Eng. Educ. Pract.* 144 (4): 02018001. <u>https://doi.org/10.1061/(ASCE)EI.1943-5541.0000389</u>. Wulf, W. W. 2001. "Diversity in Engineering." *Leadersh. and manage. in Eng.* 1 (4): 31–35. https://doi.org/10.1061/(ASCE)1532-6748(2001)1:4(31). ³ASCE (American Society of Civil Engineers). 2021. "Diversity, equity & inclusion." Topics. Accessed September 22, 2021. <u>https://www.asce.org/</u> <u>diversity-equity-and-inclusion</u>.



Role of ASCE MOSAIC

MOSAIC's vision is to promote and foster a culture within ASCE that will result in a civil engineering profession that is *equitable and inclusive for all*. MOSAIC members are:

- **Thought leaders** committed to serve as representatives who are informed and responsible decision-makers advancing DEI interests of the civil engineering community.
- •**DEI champions** who monitor the development and coordination of products and resources within the civil engineering community that promote and advance DEI.
- •**Strategic partners** who represent the interests of ASCE to the wider STEM and professional engineering community.

Members of MOSAIC bring diverse backgrounds and perspectives, in terms of both personal identities (race, ethnicity, disability, gender identity, sexual orientation, age, socioeconomic, religious, cultural, etc.) and professional sectors (academia, government, consulting, industry, etc.), that contribute to the strategic vision and initiatives in the committee's charge.

Yvette E. Pearson, Ph.D., P.E., F.ASCE Inaugural Chair, MOSAIC (2019-2021)

Lisa M. Black, Ph.D., Aff.M.ASCE Director, Cultural Belonging and Social Ethos

EXECUTIVE SUMMARY

MOSAIC created this *Best Practices Resource Guide* to provide strategies for incorporating diversity, equity, and inclusion (DEI) into ASCE activities and initiatives. Members of MOSAIC determined there were five major categories that were important for the ASCE community and created task teams to develop the content for each section: Events; Leadership and Engagement; Strategic Partnerships; Assessment, Accountability and Training; and Communication.

- **Events.** This section provides guidance in confirming that all ASCE events are accessible to, and inclusive of, all prospective participants.
- Leadership and Engagement. This section provides guidance to ensure that the intellectual, social, emotional, and physical aspects of climate within ASCE institutes, sections, branches, committees, and student chapters foster equitable opportunities for engagement and achievement for all
- **Strategic Partnerships.** This section provides guidance on how to liaise with both internal (e.g., institutes) and external (e.g., other professional societies) partners to develop, formalize, and manage strategies to advance DEI initiatives.
- Assessment, Accountability and Training. This section provides guidance on how to create metrics and provide oversight for the assessment, evaluation, and reporting of data on Society demographics, climate, and culture. It also includes guidance on DEI-related training considerations for ASCE leaders, staff, and members.
- **Communication.** This section provides guidance on ways to ensure that communications with members, partners, and the public are inclusive and from an asset-based, rather than deficit-based, point of view.

Each task team began by identifying existing resources to inform the content for their designated sections. As the content for each section was gathered, tasks teams presented it to the full MOSAIC team with the aim of identifying gaps in coverage and to give other MOSAIC members the opportunity to share insights, information, and resources to further develop each section. Leaders of each team met for a virtual "retreat" during which organizational structure was set and content was refined. After additional refinements, draft documents were shared with reviewers for their critical perspectives. The executive leadership team (i.e., MOSAIC chair, vice chair, past CDI chair, and ASCE staff contact) met to discuss how to approach the incorporation of reviewers' feedback into revised drafts. After combining all of the reviewers' comments on each section into single documents (one document per section), a MOSAIC volunteer edited the documents to incorporate the suggested changes. The final editing phases consisted of consistency checks with regard to content, verbiage, and format.

The Diversity, Equity, and Inclusion Best Practices Resource Guide is a living document, which we anticipate will be updated periodically to ensure it remains current as the discourse and research in DEI is ever evolving.

