Diversification and Inclusion at ECS

by Roque Calvo

Female ECS Presidents

Joan Berkowitz
(1979–1980)

Kathryn Bullock
(1995–1996)

Jan Talbot
(2001–2002)

Robin Susko
(2004–2005)

During the Society's long and successful lifetime, there have been profound changes marked by milestones, and at the 2019 fall meeting in Atlanta, Georgia, ECS will hold a symposium to celebrate a seldom recognized but extremely significant milestone in its history. In the Z03: 40 Years After symposium, ECS will recognize the 40th anniversary of the Society's first female president, Joan Berkowitz, examining diversity and the impact it has had on ECS. While the focus of the symposium will be on the impact of gender in leadership, the diversity of cultures, generations, institutions, and the scope of technical interests have all contributed to the inclusiveness and diversity that have impacted the long-term success of ECS.

The most important dynamic, and perhaps the key to the Society's long-term growth and success, has been its commitment to a powerful purpose and diversification of the ECS community. Progress and breakthroughs in science are typically the result of contributions and input from a multitude of researchers, so it has been natural and intentional for ECS to have facilitated diverse participation in its activities. This has attracted a great number of contributors to the ECS mission, which is simply to disseminate research to advance the science. Through its core activities, ECS has maintained a laser focus on the mission and enabled diverse participation, but there are other important characteristics about its leadership and conduct that have supported diversity and inclusion. These characteristics are truth and passion, which are fundamental to the ECS community and its activities.

International Diversity

Since its founding, the Society has supported a diverse community of scientists and engineers who have participated in the meetings, have published in the journals, and have been recognized for their achievements through ECS's awards program. Since the first ECS meeting, held in April 1902, the ECS community has included global participation from scientists and engineers with common interests in electrochemistry.

ECS may have been the first professional society to formally recognize international diversity. In 1930, ECS, which was then called the American Electrochemical Society, dropped "American" from its name because of the robust international participation in its membership and meetings.

ECS further welcomed international diversity through its international partnerships. In 1987, ECS held its first joint international meeting in the Pacific Rim (PRiME) in partnership with the Electrochemical Society of Japan. Later, partnerships were established in Latin America (AiMES), Europe (ECEE), and China (ISTC), driving meeting attendees from outside the U.S. to represent over 52% of the participation since 2016.

Now, ECS has members, meeting attendees, and authors residing in more than 80 countries. As with ECS meetings, the growth in ECS publications has been primarily from authors outside the U.S. In 2018, these authors represented over 85% of the manuscripts submitted to ECS journals.

Technical Diversity

The globalization of ECS has influenced technical diversity in the Society, which has created a multidisciplinary community unlike many other more monolithic professional societies. The diversity or scope of the Society's fundamental technical areas of electrochemical and solid state science and technology include research interests involving chemistry, physics, materials science, and several major engineering disciplines (mechanical, chemical, corrosion, optical, and electrical). And this technical diversity connects a large gamut of organizational affiliations to ECS, leading to participation from a healthy mix of industrial, government, and academic research institutions. The strong academic constituency enables further diversification by enabling student participation and thus providing ECS with contributors ranging from graduate students to world-recognized scientists. Through the development of programs aimed at supporting students, this segment of ECS's community has been the fastest growing over the past 10 years, with the number of student chapters growing from 15 to 81.

Gender Diversity

Finally, after four decades of progress, gender diversity in the ECS community can be observed through a high level of participation by women in the programs and leadership of the organization, and through increasing recognition of their research achievements. The rest of this article is dedicated to pioneering female leaders who influenced ECS. Through their experiences, it was clear to see how they drove further diversity and inclusion in ECS and in the world of science, which has been late to embrace gender diversity.

During my career at ECS, I had the opportunity to work with all seven female ECS presidents: Joan Berkowitz (1979–1980), Kathryn Bullock (1995–1996), Jan Talbot (2001–2002), Robin Susko (2004–2005), Esther Takeuchi (2011–2012), Johna Leddy (2017–2018), and Christina Bock (2019–2020). I also worked with five female leaders who were elected to the office of ECS secretary or treasurer, and during 15 of the 26 years I served as executive director, there was a prominent female officer providing input and direction at the highest level of leadership in ECS. They all left a unique legacy and were friends and mentors whose courage and influence effectively guided me during my service to ECS.

Joan Berkowitz—ECS's first great stride in gender diversity came with the election of its first female vice president, Joan Berkowitz, in 1976. After her three-year service as vice president, she was elected as the first female president and board chair, leading ECS in that role from 1979 to 1980. She accepted ECS's nomination at a time when male-dominated corporate research institutions like AT&T, IBM, TI, GE, Intel, and RCA exercised a heavy influence on ECS. This corporate support and the development of wet and dry electrochemistry led to the vibrant growth of ECS publications, meetings, and membership during her presidency. Her character, leadership, and collaboration abilities were the benchmarks of her success and opened opportunities for future women leaders in ECS.

Kathryn Bullock—In 1992, Kathryn Bullock was elected as vice president, and like Berkowitz, she came from the corporate world, beginning her career at Johnson Controls and later moving to AT&T Bell Laboratories. Her industry experience, along with her longtime work for ECS divisions and sections, prepared her for the grassroots membership and programming needs of the Society. During her presidency, she was tasked with overseeing the Society's aggressive entry into the digital world. In 1995, ECS launched its first organizational website and opened a digital abstract submission website for its meetings. This forever changed the way ECS exchanged information and interacted with its community. As president during this change, Bullock provided guidance in future programming decisions and skilled diplomacy in board-related decisions; she piloted the board with the courage necessary to lead a dramatic change in the way ECS did business.

Jan Talbot—In 1998, Jan Talbot was elected vice president, which set her up to lead ECS as president in the year of its most significant milestone—the ECS Centennial in 2002. She came from a university background and brought a different skill set than her predecessors, but one that was effective and timely. Talbot worked in hands-on positions in ECS, serving as a section officer, chair of the Education Committee, and *Interface* editor, all of which provided her with deep understanding of the organization's mechanics. This experience, coupled with her special ability to collaborate and build consensus, enabled her successful leadership of the Centennial Celebration. The Centennial brought together influential scientists and engineers from ECS's past and a few dozen representatives from its sister societies—all with strong connections to and opinions about this celebration of ECS history. Talbot was a perfect representative for ECS who complemented past president Bob Frankenthal (a senior ECS member who chaired the Centennial) as a leader of this important celebration. The timing of Talbot's presidency also coincided with ECS's second joint meeting with the International Society of Electrochemistry (ISE) in San Francisco. ISE's president at the time was Erika Kalman, and the two superbly navigated the challenges of working jointly to organize a highly successful international meeting. Sadly, the San Francisco meeting was immediately followed by 9/11, but Talbot's positive spirit helped ECS through this tragic time.

Robin Susko—Robin Susko followed in Talbot's footsteps, taking the reins of the five-year Centennial Fundraising Campaign (2002–2007) after being elected to the presidency in 2004. Like Talbot, she presided over two of the most significant meetings in ECS history (the 203rd ECS Meeting, held in Paris, France, and PRiME 2004, held in Honolulu, Hawaii). Coming from the corporate environment at IBM, Susko brought a different type of diplomacy to ECS but was equally effective in building support for and international partnerships with ECS. While ECS experienced great success during her presidency, Susko's most significant impact came during her term as the first female ECS secretary (1996–2000). Under her direction, the executive director role was restructured to provide this senior staff officer position with the authority, accountability, and security necessary to direct ECS during the challenging years ahead. As executive director at that time, I gained confidence in my role and clarity in regard to my responsibilities, which enabled my strategic abilities and provided me with opportunities that led to a long and progressive career at ECS. I am thankful for her wisdom, support, and courage.

Esther Takeuchi—Esther Takeuchi was elected vice president in 2008 and began her service at the time we were building the ECS Digital Library as we know it today. It was a period of great change in the way that ECS disseminated content because of the powerful new tools for discovery inspired by Google and the challenges being posed to the historical subscription model of content distribution. Journal subscriptions rates were being challenged by government funding agencies that correctly observed that the dissemination of research papers funded by taxpayers was being obstructed by the high cost to subscribe. This was a critical issue for ECS; as early as 2010, ECS published the first information about this challenge, which it eventually addressed with the launch of the *Free the Science* initiative in 2014. Takeuchi was a key strategist and advocate behind this initiative and brought superb diplomacy and management skills to the presidency, which she acquired from experience in both the academic and industrial worlds. And, as a 2010 U.S. National Medal of Technology winner, she held a position of great stature in the ECS community, which afforded her credibility that was important to drive change and diversity.

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Esther Takeuchi
(2011–2012)

Johna Leddy
(2017–2018)

Christina Bock
(2019–2020)

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Johna Leddy and Christina Bock—The impact of the two most recent female presidents, Johna Leddy and Christina Bock, goes beyond their presidencies because both served in other ECS officer positions; Leddy was secretary (2008–2012) and Bock was treasurer (2010–2014). These offices have historically been male dominated, so these two women started on a pioneering path. Leddy was the second female ECS secretary and was immediately followed by Lili Deligianni (2012–2016), who represented the third female to hold this office out of the last six ECS secretaries. Bock was the first and only female ECS treasurer until Gessie Brissard was elected last year (2018–2022). These four-year offices, combined with the terms of vice president, president, and past president, extended their board service to nine years. The duration of their service and thus the impact that Leddy and Bock have had on ECS cannot be overstated. Their collective influence has led to greater inclusiveness and programmatic success, exemplified by the Leddy/Bock co-creation of the Electrochemical Energy Summit. The summit was first conducted in 2011 and has become one of the most important in ECS's biannual meeting series. Leddy and Bock's creative planning was captured on video (https://youtu.be/bpzyj7YCiBU) and epitomizes the power and influence of gender diversification in ECS.

Next Steps

The Society's commitment to accelerating scientific discovery and innovation has been greatly enhanced by its commitment to diversity and inclusion. And to further enhance this commitment, on all levels and across all the Society's affairs, ECS is proud to announce that the ECS Board of Directors recently approved a **Diversity and Inclusion Statement** (see below). From the beginning, the ECS community has placed great importance on inclusiveness and diversity; now, these values are reflected in the objectives, activities, governance, and culture of the organization. They are critical components of the Society's past and future success in achieving its primary mission—to advance electrochemical and solid state science and technology.

About the Author

Roque Calvo is the former ECS executive director and chief executive officer (1991–2018). During his long tenure with ECS, Calvo spearheaded the Society's transition to digital platforms and facilitated the vast expansion of its global partnerships, student programs, and awards portfolio. He served a pivotal role in the implementation of many momentous and far-reaching Society enterprises, including the establishment of this magazine and the launch of the *Free the Science* initiative, which continues to guide the Society's direction.

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ECS's Commitment to Diversity and Inclusion

ECS is committed to accelerating scientific discovery and innovation, and to leading the community as the advocate, guardian, and facilitator of the Society's technical domain.

A major part of this commitment is to foster diversity and inclusion, on all levels, across all the Society's affairs. To that end, ECS is proud to announce that the Board of Directors, on the recommendation of ECS's Ethical Standards Committee, chaired by Johna Leddy, recently approved the following Diversity and Inclusion Statement:

> *The Electrochemical Society strives to be an inclusive organization that promotes and values diversity. We recognize and respect the rights of all, and are committed to building and maintaining a culture that encourages, supports, and celebrates the unique backgrounds and experiences of our members, volunteers, employees, and constituents. Diversity is our strength. It fuels innovation, enhances collaboration, enables our best accomplishments, brings us closer to the communities we serve, and advances our mission to promote electrochemical and solid state science worldwide.*

Please join the Society in celebrating diversity in all its forms. To learn more, get involved, or share your views on this vital topic, contact ECS Executive Director Christopher Jannuzzi at Chris.Jannuzzi@electrochem.org.