

Dear Selection Committee,

We are incredibly honored to write this letter of support for Dr. Catherine Berdanier for **the 2025 Mentor of the Year Award**.

Dr. Berdanier has been an exceptional mentor to us throughout our doctoral and post-doctoral journeys and to so many other students she has no professional connection to. She continuously lifts students up, building our confidence and pushing us towards excellence with a kind heart and mindfulness for our wellbeing. We cannot think of someone more deserving and better suited to receive this award. Below three Penn State Sloan Scholars write about their unique and outstanding experiences being mentored by Dr. Berdanier:

I first came to know Catherine when I was completing my master's degree in civil engineering and wanted to pursue a doctoral degree that incorporated themes of engineering education; diversity, equity, and inclusion; and retention of underrepresented minority groups. This interest in working in engineering education, and on equity and social justice issues emerged from my own lived experiences and cultural background (being a first-generation Mexican American and first-generation college student). At the time, my MS degree advisor and Catherine were great colleagues, and my MS advisor put me in contact with her to talk about the possibility of joining her lab group to pursue a PhD. During my first conversation with Catherine, I instantly discovered we had similar interests and knew I wanted to work with her. However, she did not have funding available for new PhD students. Opportunely, I obtained a graduate research assistantship through my college's center for teaching and learning, which eased my transition to the Mechanical Engineering Ph.D. program and Dr. Berdanier's research lab.

Catherine has acknowledged that advising and mentorship are related but not the same thing. She advises her students in an academic and research sense, but mentorship is a relationship. Since knowing her, she has committed to knowing me as a whole person and does not fill me with her own ideas, but rather she helps me construct my own pathway in ways that will make me successful. Since being advised and mentored by Catherine, she has always taken the time to meet with me individually (weekly – 30 min to 1 hour) to check how I am doing at a personal and academic/research-level. Furthermore, every semester (at the beginning and end) we work together on the overarching vision of my goals, milestones, project(s)/publication timelines, so that we both can track my progress and celebrate all big and small victories. Importantly, at the research level, Catherine has inspired me to think critically and creatively to identify opportunities to acknowledge and address Diversity, Equity, Inclusion, and Belonging (DEIB) issues that are already present, or absent, from existing graduate-level engineering education contexts. Her guidance has allowed me to consider difference, power, and privilege throughout institutional policies, and educational and research practices including theoretical, epistemic, methodological, and pedagogical practices. Specifically, she is supporting me in completing my doctoral dissertation which incorporates critical theories/frameworks from education and social science and uses multiple and mixed research methods techniques to help make DEIB an integral part of engineering education.

Catherine also encourages me and her students to take leadership positions in organizations outside the lab to make connections and develop a wide range of skills. This philosophy has been critical for me to develop leadership, communication, and mentoring skills, and to engage in various extracurricular activities that seek to strengthen historically underrepresented

racial and ethnic engineering students' careers and foster an equitable and inclusive workplace environment for graduate students. To highlight a couple of examples, I have been a committee member and the Workshop Coordinator for the Multicultural Engineering Graduate Association (MEGA) for the last ~four years. In this role, I provide opportunities for graduate students to develop their professional skills through workshops, seminars, and other interactive events. Additionally, as part of MEGA, I co-founded Penn State's Graduate Student Community Space (GSCS) by assisting in developing and submitting the GSCS proposal to Penn State's Student Fee Board. The GSCS proposal was approved and received full funding (~\$185k) and officially opened its doors in Spring 2025 with me as the acting GSCS manager.

Consequently, Catherine's encouragement to pursue these endeavors enabled being awarded prestigious honors such as *Penn State's Outstanding Graduate Student Leader Award* and *Mechanical Engineering's Belonging Excellence & Transformational Research (BETR) Leadership Award* and the *Alfred P. Sloan Foundation: Minority Ph.D. (MPHD) Program Fellowship*. Furthermore, to support my professional development and future career interests, she helped me be selected for the highly acclaimed *Christine Mirzayan Science and Technology Policy Graduate Fellowship*, sponsored by the National Academies of Sciences, Engineering, and Medicine, and the *NextProf Nexus Program*, sponsored by the University of Michigan, UC Berkeley, and Georgia Tech.

It is simply a fact that nothing in this nomination will do justice to just how much of an impact Catherine has already had on me and many other students. Catherine is an extremely strong educator who is motivated to help you construct your pathways in ways that will make you most successful in achieving your goals. She has inspired me to become, like her, an educator, a change agent, and a critical gatekeeper that seeks to institutionalize positive and equitable improvements in the future of engineering education. It has been a pleasure to have Catherine as a mentor, and she will remain a vital asset for me and for the educational community. Catherine is by far the best mentor I have ever had, and I cannot recommend enough for this award. – **Luis Delgado**

When I first connected with Catherine, I was attempting a challenging transition from combustion to engineering education research—a pivot many faculty dismissed as impractical. While others saw limitations, Catherine recognized potential. She patiently addressed my methodological questions and helped me overcome the intense imposter syndrome that accompanied entering a new field. This intellectual guidance came alongside unwavering accessibility—maintaining regular bi-weekly meetings, prompt email responses, and phone availability despite our entirely remote working relationship (which she arranged to accommodate my personal/life needs).

Catherine's commitment to my success became especially apparent when I considered applying for a dream tenure-track position early in my transition to engineering education. Despite her busy travel schedule, she promised to review as many revisions of my application materials as necessary until they were interview-worthy. This level of dedication provided not just practical assistance but the confidence I needed to pursue an opportunity I might have otherwise abandoned due to self-doubt.

What truly distinguishes Catherine's mentorship is her ability to create an environment where excellence is expected yet achievable. She transforms what could be intimidating into an exciting challenge by ensuring the process of reaching excellence is both rewarding and supported. During a recent invited talk, Catherine began by introducing her research team and explicitly stating that none of her work would have been possible without us. Later in the presentation, when highlighting innovative economics modeling work, I was surprised and deeply moved to realize she was showcasing my contributions to her peers.

Catherine consistently champions my development as an independent researcher with my own scholarly identity. Recognizing our similar approaches could hinder my independence, she deliberately highlights the unique aspects of my research—particularly my systems-focused approach integrating educational and wellbeing outcomes. Rather than directing me to mirror her work, she nurtures the development of my complementary but independent research program.

Under Catherine's mentorship, I have accomplished more than anticipated while maintaining enthusiasm that will carry through my remaining appointment. In less than a year, I have written two conference papers, collected all required fellowship data, and am preparing three journal submissions. Her support has allowed me to balance teaching commitments with research productivity, viewing these varied activities as complementary rather than competing priorities.

Catherine's mentorship has potentially made this postdoctoral fellowship the highlight of my research career. She has fostered both my professional development and personal wellbeing, creating space for conversations about navigating academia as a woman and mother in engineering. Through her guidance, I have learned that productivity thrives when personal fulfillment and professional development are valued alongside research outputs—something often discussed but rarely modelled.

Most importantly, Catherine has provided a space for this postdoc to be a truly healing experience for me. I am one of many students who had a harrowing PhD: undergoing years of abuse, manipulation, neglect, and retaliation so severe that I have PTSD from the experience. As a result, I can no longer bear to work in my originally chosen field of combustion, necessitating my research pivot. Catherine gave me this opportunity when others would not. While most of us who dream of becoming a faculty someday have only models of what not to be, Catherine is exactly the opposite. She is excellent in every way. Not only is she a true mentor to all of her students, but she is a driver of authentic change in graduate education – making it the primary focus of her research group. I know that there are many faculty who take in students like me, willing to attempt to repair the damage that was done. For Catherine providing this level of mentorship is not enough. She is a force whose legacy is and will continue to be

improving the graduate education system – providing support to students at scale. For her profound impact on me personally, those in her research group, those in her classes, and on the current and future graduate students that will never meet her, no one is more deserving of this award. – **Boni Yraguen**

My first meeting with Catherine was the highlight of my Penn State graduate school visit. I had just been told by another professor that my academic background was too weird for the mechanical engineering department's program and was feeling particularly demoralized. Then came Catherine running down the hall, cornering me with the friendliest welcome, and asking me to chat with her for 15 minutes because she read my application materials and thought I could be a perfect fit for her research group. She embraced my "weird" background as a background that would provide a unique perspective. In that short conversation, Catherine, unknowingly, completely changed my graduate school trajectory and taught me to embrace my interests and use them to guide me to work I could be passionate about.

I decided to join her research group and embrace a completely new research area after she insisted, I spoke to some of her other students to make sure I liked her working style, expectations, and mentorship style. Over many years of working with her, I have come to realize this is Catherine's bread and butter: transparency with a humanistic approach. With Catherine, you know exactly what she expects from you and your work. That can seem scary at times, but she is constantly checking in and scaffolding to help us learn necessary research skills. She is an excellent professional mentor. However, she is an even better personal mentor. Catherine is extremely professional, but she mentors through such an empathetic lens that you cannot help but learn from her how to treat people with respect and be reminded that it is okay, and even excellent, to have a life outside of academic research. Catherine constantly encourages us to take breaks, find and nurture our passions, and be available for the things and people that matter most to us.

Dr. Catherine Berdanier is the best mentor I have ever had. She has mentored me through the process of integrating into the field of engineering education. She has mentored me through academic research and verbal and written communication. She has mentored me through rediscovering my personal interests and making space for those identities to coexist with my passion for my work. Most importantly, she has mentored me through becoming a more confident person overall. Even in times when I wavered in my self-confidence, Catherine never did. She saw my abilities and found tailored-to-me ways to help me shine. Although I know that my experiences and interactions with Catherine are not unique, she has a way of making everyone she interacts with feel seen and heard. Dr. Catherine Berdanier is a mentoring exemplar to so many, and she deserves to be recognized for her dedication to students and to improving students' personal and professional experiences throughout their graduate education. – **Gaby Sallai**