

Brian Aguado, PhD

Dr. Brian Aguado is currently an Assistant Professor of Bioengineering at UC San Diego, where his laboratory research is focused on studying sex differences in cardiovascular disease using biomaterial technologies. Dr. Aguado is also the Co-Director for the Women's Health Innovations through Scientific Discoveries, Engineering, and Medicine (WHISDEM) Center at UC San Diego. Dr. Aguado completed his BS degree in Biomechanical Engineering from Stanford University and his MS and PhD in Biomedical Engineering from Northwestern University. He also obtained his certificate in Management for Scientists and Engineers from the Kellogg School of Management at Northwestern. He completed his postdoctoral fellowship in Chemical and Biological Engineering at the University of Colorado Boulder. Dr. Aguado has received numerous grants to support his research, including the NIH K99/R00 Pathway to Independence Award, the American Heart Association Career Development Award, the Chan Zuckerberg Initiative Science Diversity Leadership Award, the NIH DP2 New Innovator Award, the NSF CAREER Award, and the Women's Health Access Matters (WHAM) Edge Award. Dr. Aguado is also the recipient of the American Society of Matrix Biology Young Investigator Award, the Society for Biomaterials Young Investigator Award, the Tissue Engineering and Regenerative Medicine International Society (TERMIS) Young Investigator Award, the Cellular and Molecular Bioengineering (CMBE) Rising Star Award, the CMBE Young Innovator Award, the Biomaterials Journal Young Investigator Award, the Great Minds in STEM HENAAC Award for Most Promising Scientist and Engineer, and was elected as an AIMBE Emerging Leader for his efforts as an ISSCR Goldstein Science Policy Fellow. Dr. Aguado also co-founded the non-profit organization LatinXinBME, a grassroots virtual mentoring group of over 600 Latinx biomedical engineers dedicated to building a community that supports each other personally and professionally through their careers. For his mentoring and teaching efforts, he was named one of the 100 Most Inspiring Latinx Scientists in America by Cell Press and received the Society for Biomaterials Diversity, Equity, and Inclusion Award, the BMES Diversity Award, the ASEE Constituent DEI Award, the Teacher of the Year Award from the Jacobs School of Engineering, the ISSCR Public Service Award, and the GEMINI Faculty Mentor Award from the UCSD Institute for Engineering in Medicine.

Dr. Aguado is running for Council Member of the American Society for Matrix Biology to build on the Society's strong foundation of exemplary research and inclusive community. If elected, he will pursue four initiatives. First, drawing on his experience building human-relevant tissue models, he will propose an ASMB E-Symposium on New Approach Methodologies (NAMs), modern research tools designed to reduce or replace the use of animal models. The symposium will highlight how human extracellular matrix tools are being used to build improved models of tissues in health and disease. Second, as Co-Director of WHISDEM, he will bring his commitment to broadening participation to ASMB by establishing the ASMB Social Impact Award, recognizing a member who has shown outstanding dedication to expanding access to matrix biology research among underserved communities. Third, he will work with the *Matrix Biology* editors to create special issue publishing research from outstanding early- and mid-career investigators, paired with dedicated opportunities for these investigators to present their work at the Biennial Meeting. Fourth, he will work with the Council to establish an ASMB Fellow designation, modeled on fellowship programs in other scientific societies, to recognize and encourage sustained leadership in research, education, and social impact among senior members.



Council Seat Candidate
Brianne K. Connizzo, Ph.D.
Assistant Professor in Biomedical and Mechanical Engineering
Boston University

Background: Dr. Brianne Connizzo is an Assistant Professor in the Departments of Biomedical Engineering and Mechanical Engineering at Boston University. Dr. Connizzo received her Ph.D. in Bioengineering from the University of Pennsylvania in 2015 and completed her postdoctoral training in the Department of Biological Engineering at MIT. Her research has been continuously supported by the National Institutes of Health, including a K99/R00 Pathway to Independence Award and an NIGMS R35 MIRA, as well as private foundations. Dr. Connizzo has been highly productive in the field, with over 40 peer-reviewed publications and more than 2,000 citations. In addition to her research contributions, Dr. Connizzo is deeply invested in mentorship and leadership, devoting time to curricular development, advisory committees, and various student organizations on campus. She was recently recognized with the 2026 Early Career Excellence in Research Award from BU's College of Engineering. She currently serves on the editorial board of *Matrix Biology* and *Matrix Biology Plus*, and on the organizing committee for the upcoming ASMB Biennial Meeting.

Research Program: The long-term goal of my research program is to understand the key factors involved in regulation of the physiological microenvironment such that cells maintain their native function throughout life. In particular, my work centers on understanding maintenance of the extracellular matrix and how this process changes in response to biological changes (age, sex), physical changes (disuse, exercise), and environmental changes (endocrine signaling, metabolism, inflammation). To do this, we have built novel tools to stimulate, visualize, and quantify matrix turnover, enabling mechanistic understanding the pathways underlying normal and pathological tissue remodeling. This includes explant models of age- and sex-related pathologies, custom-built bioreactors that control the mechanical loading environment of tissue explants and biological factors in the medium, and novel assays for multiplexed protein quantification. Ultimately, our goal is to understand how to enhance intrinsic tissue maintenance to prevent degenerative tissue disease.

Vision for the Society: ASMB has always brought together people from many disciplines around a shared interest in the matrix, and I would like to help build on that. I would love to see more opportunities for engineers and biologists to work side by side, through joint sessions, workshops, and training that pair mechanics, modeling, and sensing with molecular approaches. I would also like to help grow interest in how sex, hormonal state, and age shape matrix biology, which I think can lead the field toward a more personalized view of the ECM. I am excited about the use of new tools that measure matrix synthesis and degradation together in living tissue and in real time, and I think the society could be a great place to share and teach them. Finally, but perhaps most importantly, I have been dedicated to mentoring throughout my career and would be thrilled to develop initiatives that support trainees and early-career investigators who are building careers between disciplines. ASMB has quickly become a research home for me and my lab, and I'm honored to give back to this community.

Nomination for Council Member, ASMB
Chitra Dahia, PhD.



I am an Associate Professor of Cell and Developmental Biology at Weill Cornell Medical College and an Associate Scientist at the Hospital for Special Surgery. My scientific career began in India, where I earned a Bachelor of Science with honors in Zoology from Kurukshetra University, followed by a Master of Science in Zoology with a specialization in Endocrinology from Delhi University. Next, I joined the lab of Prof. A. J. Rao an completed my doctorate in Biochemistry and Endocrinology at the Indian Institute of Science, Bangalore. During my postdoctoral training with Prof. Chris Wylie at Cincinnati Children's Hospital, I was introduced to the extracellular matrix and its role in musculoskeletal tissues.

During my postdoctoral research, I discovered that postnatal nucleus pulposus cells in the mouse intervertebral disc continue to express sonic hedgehog and brachyury, which are key developmental molecules (Dahia et al., 2009). I also showed that sonic hedgehog expression in the nucleus pulposus establishes an active signaling center in each disc (Dahia et al., 2012), regulating adjacent cells and their extracellular matrix. These findings have shifted perspectives on postnatal musculoskeletal tissues, showing importance of underlying biology beyond mechanical structure. Research in my lab investigates how developmental signaling pathways via tissue crosstalk regulate development and homeostasis of musculoskeletal tissues and their extracellular matrix. My team has developed a range of tools and genetic mouse models to assess both short- and long-distance crosstalk in matrix regulation and its effects on tissue structure, function, and pathological chronic pain. My long-term objective is to translate these insights into therapeutics for degenerative and painful musculoskeletal conditions.

Through active involvement in scientific societies and organizations, I seek opportunities to promote emerging scientific talent. I have been the member of ASMB for over twelve years. Recently, I have contributed to the ASMB through mentorship, fundraising for the 2025 Biennial Meeting, and participation on the planning committee for the 2027 Biennial Meeting. These leadership experiences have deepened my appreciation for the society's core values, which I share: advancing innovative science to improve human health and cultivating an environment that supports early-career scientists. As a member of the Accessibility and Belonging Committee (2025-present) and an officer of the Spine Section (2025-present) in the Orthopedic Research Society (ORS), I support efforts for academic development of young scientists. As Chair of the Emerging Leaders Committee of International Society for the Study of Lumbar Spine (ISSLS, 2026-present), I am creating opportunities for the academic growth of the next generation of clinicians and scientists. I serve on the Steering Committee for the Structural Birth Defects Meetings, served on the organizing committee for the 14th meeting in 2026, and co-organized the 5th ORS/PSRS Spine Research Symposium in 2019. I am a standing member of the NIH SSPD study section panel and have participated in numerous NIH study section panels and roundtable discussions, as well as reviewed grants for various national and international agencies, including Veterans Affairs, OREF, the Wellcome Trust, and the Swiss National Science Foundation.

As a Council Member of ASMB, I am dedicated to serving the dynamic and diverse scientific community at all career stages. My goal is to advance scientific excellence in Matrix Biology through collaboration and by training the next generation of scientists. I will actively participate in council meetings to discuss the society's strategic initiatives and governance, and to support the community. I will contribute to outreach initiatives and promote ASMB within other scientific communities to foster collaboration, enhance the society's visibility, and increase membership. I will also help develop programs to engage young investigators in Matrix Biology and highlight its significance to human health and disease.



Pilar de la Puente, PhD

Dr. Pilar de la Puente is an Associate Scientist at Sanford Research and Associate Professor at the University of South Dakota Sanford School of Medicine. She received her PhD in Biomedical Engineering and Biological Sciences from the University of Salamanca and completed postdoctoral training at Washington University School of Medicine in St. Louis, where she specialized in cancer tissue engineering, nanomedicine, and precision medicine approaches.

Dr. de la Puente's research focuses on extracellular matrix remodeling, tumor microenvironment engineering, and the development of patient-informed models to investigate cancer progression, therapeutic response, and immune interactions. Her laboratory integrates matrix biology, biomaterials, and cancer biology to advance more predictive platforms for translational research and precision oncology.

An active member of the American Society for Matrix Biology since 2020, Dr. de la Puente serves on the Communications and Outreach Committee, has co-led the organization of ASMB's e-Symposium series for the past two years, and is a member of the organizing committee for ASMB 2027. She is passionate about fostering interdisciplinary collaborations, supporting trainees and early-career investigators, and strengthening engagement across the Society.

ASMB has played an important role in my professional growth, and I am seeking a Council position to help shape the Society's future while giving back to the community that has provided opportunities for collaboration, mentorship, and scientific exchange. If elected, I would focus on three priorities. First, I would advocate for expanded support of trainees and early-career investigators, helping them develop not only scientific expertise but also skills in leadership, collaboration, communication, mentorship, and team science. I believe ASMB can play an important role in preparing the next generation of matrix biologists by creating meaningful opportunities for engagement, networking, mentorship, and leadership within the Society.

Second, I would work to strengthen connections between matrix biology and related fields, including engineering, immunology, cancer biology, aging, regenerative medicine, and computational biology. As matrix biology continues to influence diverse areas of biomedical research, ASMB is uniquely positioned to foster interdisciplinary collaborations that accelerate discovery and broaden the impact of our field.

Finally, I would support initiatives that promote year-round engagement through scientific exchange, mentoring opportunities, educational programming, and community outreach. Maintaining an active and connected membership between meetings will help ensure that ASMB remains a vibrant, welcoming, and inclusive professional home for scientists at all career stages.

It would be an honor to serve on the ASMB Council and help advance a Society that supports scientific excellence, collaboration, and the success of current and future generations of matrix biologists.



Dr. Dirk Hubmacher
Scientist
Translational Matrix Biology (AG Krieg)
Faculty of Medicine
University of Cologne
Cologne, Germany

Scientific Background: As a scientist in the Translational Matrix Biology research group at the University of Cologne, I focus on fibrosis mechanisms in skin as therapeutic targets. I received my Ph.D. in Biochemistry and Microbiology from the University of Lübeck, Germany, in 2004, and subsequently trained with Dr. Dieter Reinhardt at McGill University (Montreal, Canada), studying fibrillin microfibrils and molecular mechanisms underlying Marfan syndrome and homocystinuria. In 2011, I joined the laboratory of Dr. Suneel Apte, a former ASMB president, at the Cleveland Clinic Lerner Research Institute (Cleveland, USA) to investigate ADAMTS proteins in genetic connective tissue disorders. From 2018 to 2024, I led a research group at the Icahn School of Medicine at Mount Sinai (New York, USA), focusing on ADAMTS proteases and ADAMTS-like proteins in the context of connective tissue disorders. I have contributed to more than 50 peer-reviewed publications and serve on the editorial boards of *Matrix Biology* and *Matrix Biology Plus* and as a director of the *Ines Mandl Research Foundation*.

Involvement in the ASMB: I have been an ASMB member since 2012 and consider the ASMB my scientific home. I served on the Council from 2018 to 2022 and have been a member of the Communications and Outreach, Nominating and Awards, and Program Planning Committees. I currently serve on the ASMB Publications Committee. These experiences have helped me appreciate the work that goes into sustaining the ASMB as a society and creating opportunities for its members. I would welcome the opportunity to build on this experience and continue contributing as a Council member.

My Vision for the ASMB: For me, the ASMB stands for exciting science, a strong and welcoming community, and opportunities to exchange ideas and build collaborations across disciplines and career stages. Its meetings and other scientific activities are particularly valuable in bringing together researchers from around the world. As a Council member, I would work to strengthen these connections, support mentoring and career development, and help ensure that the ASMB remains inclusive and responsive to the needs of its members. I believe it is important to create opportunities for early-career scientists while continuing to engage and support researchers throughout their careers. I would be honored to contribute to a society that has played an important role in my own scientific journey and to help sustain its position as a leading voice for extracellular matrix research around the world.



Alexandra Naba, Ph.D.
Associate Professor
Department of Physiology and Biophysics
University of Illinois Chicago
Founder of the Matrisome Project
https://naba.lab.uic.edu/

The American Society for Matrix Biology has played a formative role in my scientific career, from awarding me my first travel award to attend the 2010 ASMB meeting in Charleston, SC, to recognizing me as its Junior Investigator awardee in 2018. As I celebrate my 17th year as a member of our Society, I would be delighted to give back to an organization that has done so much for me by serving again on its council.

Throughout my past involvement with ASMB, I have sought to strengthen our community through leadership and new initiatives. As council member (2016-2021) and Chair of the Outreach and Communication Committee (2016-2021), I spearheaded the creation of the Society's social media presence, launched a quarterly e-newsletter that I edited from 2020 to 2022, and oversaw the introduction of virtual e-symposia during the COVID-19 pandemic.
I have also helped shape ASMB's scientific programming, served on the Council of the International Society for Matrix Biology (2017-2021), and currently advise trainees through the ASMB mentoring program. My service on the editorial boards of our Society's journals, *Matrix Biology* and *Matrix Biology Plus,* further reflects my commitment to advancing our field.

As a more established scientist, I have also witnessed, with great pride, some of my trainees take an active role in our Society's activities.

If elected to the council, I would draw on my experience in ECM research, scientific leadership, and community building to strengthen mentoring and networking opportunities for early-career researchers and broaden the reach of ECM research by expanding collaborations with other scientific societies.

Having personally experienced how meaningful the Society's support can be at different stages of one's scientific career, I will strive to help create those same opportunities for generations of matrix biologists to come.