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.