

USACM write-up for Rekha Rao

I am deeply honored to be nominated for the position of Secretary-Treasurer of the USACM. Over my 29-year career at Sandia National Laboratories, I have had a passion for research and development in computational mechanics, especially in the development and application of physics-based numerical methods to the real-world, combining multiphysics modeling with facets of chemistry, rheology, and material science. I have a long history of service to USACM and IACM; regularly attending meetings and organizing Minisymposia. For the last two years, I have served as Chair of the Female Researchers Committee of IACM, an organization founded to improve gender balance in computational mechanics. During my tenure, I have organized and led Women's Networking Events at USNCCM & WCCM, raised funds, and reviewed applications for competitive travel awards so young female researchers could attend meetings. If elected, I would be the first female Secretary-Treasurer of USACM and would provide a positive role model for recruiting, with diversity, for future experts in computational mechanics. My experience auditing the Society of Rheology has provided me opportunities to learn about potential funding streams and industrial sponsorship of nonprofits. To grow, we need to increase participation from mathematicians, physicists, and computer scientists. To attract the next generation of scholars to USACM, we must increase our online visibility with webinars, virtual working groups, and STEM outreach projects (Coding is cool!). Many users of commercial mechanics software are untrained in the underpinnings of the algorithms and assumptions they make. Training classes for non-expert professionals in the fundamentals would increase our visibility. As a leader of USACM, I will use my enthusiasm for computational mechanics to increase our industrial and national lab membership, develop more career opportunities for graduate students and postdocs, and broaden recruiting efforts for graduate studies to attract talented scientists to this field.