

Encouraging Diversity and Inclusion in Science Via the Book *Opening Doors: Joan Steitz and Jennifer Doudna of the RNA World*

To the Editor,

In many sectors of society, there is a new/renewed sense of urgency regarding issues of Diversity, Equity, and Inclusion: from demographics of the newly elected members of the US House of Representatives, to nominees for motion picture and television awards, to network news reporters and anchors, to leadership in higher education.

Seeing how scientists are portrayed by the media, in literature and film can inspire us as well as the next generation of microbial scientists. We urge teachers at all levels to find and use examples of diverse role models so that every student might “see and hear someone who looks and sounds like them” (1) as they learn about science and scientists. An excellent example is the new book, *Opening Doors: Joan Steitz and Jennifer Doudna of the RNA World*, by Laura L. May Hoopes of Pomona College.

Rarely is there a book that features women scientists who are: extraordinary achievers, terrific mentors and colleagues, wives and mothers, and are still alive and extremely productive. Laura Hoopes has written such a book. She features two women whose lives, despite being a generation apart, have been intertwined as part of the “RNA World” community. Perhaps it is somehow fitting that both women chose to work on molecules that are the “intermediate” in the Central Dogma of molecular biology. For many years, RNA took a back seat (if not the caboose) to DNA, proteins, and the building blocks and machines that produced them. Working with RNAs was technically more difficult, and therefore larger, more stable RNAs were the earlier targets. But technological advances and keen observations helped reveal catalytic properties of RNA and an amazing world of small RNAs, the roles of which have challenged many of our early concepts. I often tell my students that “the path is not linear”—that applies to their lives in general and to professional trajectories, especially if it involves scientific research.

While their scientific achievements have been well recognized, it is the human side of each woman that Hoopes lyrically describes. She cleverly interweaves their personal and professional stories and chronicles the highs and lows that are typical of many scientific careers, especially for women who are pioneers in their fields. Interesting parallels as well as the contrast of careers a generation apart make this an important book for a broad audience. I would recommend it to young women and men who are interested in a career in science as

well as those who are and will be mentors for them. The role of mentors and advocates cannot be over-emphasized. I often describe them as Sherpas who guide someone’s footsteps on an unfamiliar and sometimes treacherous path. Another essential lesson exemplified by both Steitz and Doudna is the importance of seeking support and asking for help. Students often think that successful people have to “do it all on their own”—nothing could be further from the truth!

The role of supportive mothers is another highlight of the book. While the landscape of child care and other family support is evolving, having the good fortune to have a mom who is able to step in and help is an undeniable advantage that is not available to many young scientists. Finding partners, either in one’s personal life or as a valued longer-term member of one’s lab, who will move across the country with you is another factor. While some luck is involved, the contributions that one makes in initiating and maintaining partnerships takes work and clearly this has happened for both Doudna and Steitz. Hoopes concludes her book by acknowledging that the two women she featured had more traditional marriages, but that the lessons they teach us are pertinent to scientists and professionals in many different types of relationships. Being compassionate and supportive definitely counts, whether we are talking about science or life in general. Being courageous, persistent and willing to collaborate also helps pave the way to fulfilling lives such as those of these two giants in the RNA World.

This example of successful women scientists is one way to encourage diversity and inclusion in science, but other approaches are needed as well. The ASM’s Board of Directors has commissioned the formation of a Task Force to focus the attention of the Society and its membership on issues involving Diversity, Equity, and Inclusion. As the member of the Board who has been asked to spearhead the seating of the Task Force, I am partnering with “the other Amy,” Amy Chang, of ASM’s Education Department. We are moving forward with a preliminary report to the Board in June 2019 and a meeting of the Task Force as early as fall 2019. We look forward to engaging more broadly with the ASM community once the planning has been completed.

Respectfully,

Amy Cheng Vollmer

Isaac H. Clothier, Jr. Professor of Biology
Swarthmore College, Swarthmore, PA

Member, Board of Directors

American Society for Microbiology, Washington, DC

E-mail: avollme1@swarthmore.edu

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