

# INSIGHTS



LETTERS

## NEXTGEN VOICES

### Quality mentoring

In her Working Life, “Paying it forward as a mentor” (3 August, p. 522), B. Abderrahman describes how a mentor’s encouragement can help shape a career. She then explains how her positive mentorship experience inspired her to mentor others. We asked young scientists to **describe one quality of a mentor you’ve had that you will try to emulate when you become a mentor yourself**. Respondents from around the world wrote in appreciation of their patient, honest, humble, and supportive role models. Excerpts from their responses are printed here. —Jennifer Sills

## Individualized support

My mentor, like myself, is a first-generation graduate student. She had to pave her way through academia and fight for the projects she knew had value. In a male-dominated field, my mentor had to speak up when she was being overlooked. By creating a path for herself, she taught me how to advocate for science, for others, and for myself.

### Lauren Segal

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Good mentors should work to identify their mentees’ interests, even when it means stepping out of their own comfort zone. My mentor has spent countless hours guiding me on problems at the intersection of math, philosophy, statistics, and biology, solely because of my interest in them.

### Divyansh Agarwal

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When I told my professor that I was planning to commit the cardinal sin (leaving academia for industry), he didn’t sour and inform me that scientists can only be successful as professors. Instead, he immediately began searching for industry collaborations and potential internship opportunities, and he suggested that I attend industry-focused conferences. He was mindful of my situation and sought to help, not impede, my career goals.

### Kyle J. Isaacson

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Before I even knew what my interests were, my mentor found the perfect opportunities for me and pushed me to succeed. He suggested paths that I would have never considered myself. When we discussed my hesitation, my mentor assured me that these endeavors would be challenging but rewarding. Having someone identify activities for me outside of my comfort zone and encouraging me to pursue them helped me grow as an individual more than I could have imagined.

### Theresa B. Oehmke

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## Academic excellence

My mentors instilled in me discipline in research, strict observance of regulations to prevent lab accidents, and adherence

to project timelines. Their lab meetings helped me assess my progress, solve problems, and properly document results, and regular paper presentations kept me up to date with the latest research and helped me incorporate new ideas.

#### **Brijesh Kumar**

Dr. Sneha Lata Singla-Pareek's Lab, Plant Stress Biology Group, International Centre for Genetic Engineering and Biotechnology, New Delhi 110067, India. Email: brijeshkumar2412@outlook.com

My mentor is very supportive, but she is also the best devil's advocate I know. At the start of my Ph.D., I often interpreted results within the framework of my existing hypothesis, sometimes wondering if the experiment had gone wrong if the data did not fit. My mentor would instead challenge my hypothesis, and these discussions have helped me grow into a better scientist.

#### **Jennifer Shuen Chen**

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## **Humility and empathy**

It is empowering to work with a mentor who is open to learning from his or her mentees. I will always strive to be the kind of mentor who never pretends to have all the answers.

#### **Joseph Michael Cusimano**

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Having the ability to understand other people's concerns without making them feel embarrassed and inadequate is the key to bringing out the best in people. By being empathetic, a mentor gains respect and inculcates a mindful work environment.

#### **Swati Negi**

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My mentor led by setting examples of humble excellence, rather than by inducing fear through ultimatums, threats, or castigation. In doing so, she freed me from fears that otherwise would have stifled me.

#### **Irina Tiper**

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## **Collaboration and networking**

During my training as a biomedical engineer, I was sometimes reluctant to let others work on my project. My professor's open attitude and confidence convinced

me to explore collaborations and made me realize that including others in my work not only is personally rewarding but also leads to better and faster scientific accomplishments.

#### **Adrianus J. Bakermans**

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My mentor added meaning to my work by providing opportunities for me to talk to the physicians and patients who would use the devices we develop. I will emulate this by facilitating interactions between people of diverse perspectives.

#### **Mark Martin Jensen**

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My supervisor took the initiative to build my network. At conferences, he introduced me to researchers interested in my focus area, and he always invited me to meet local and foreign researchers who visit our university. This taught me that being a mentor means creating opportunities for mentees.

#### **Edmond Sanganyado**

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My mentor works to create a diverse team, including lab members of multiple nationalities, races, and genders, and creates equal opportunity by encouraging female lab members to present their work at international conferences. This model has enhanced my social, cultural, and ethical learning.

#### **Syed Shan-e-Ali Zaidi**

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## **Impartial advice**

When my family or colleagues give me advice, it is biased, unintentionally, by their own interests. In contrast, my mentor helps me to look at problems from a global perspective. He tries to ensure my future success without worrying that a decision may take me far from home or mean leaving my current company.

#### **Carmen Romero-Molina**

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When I was deciding whether to do a year of volunteer work, I appreciated one professor's clear-cut advice: "Take full advantage of the opportunity you take (volunteering, industry work, or graduate school) regardless of your decision."

#### **Santiago Esteban Martínez**

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My greatest mentors have an uncanny ability to hear that far surpasses active listening. Great mentors are rarely those assigned as advisers, committee members, or sanctioned mentors; instead, they are individuals found through networking, shared interests, and happenstance.

#### **Sarah Marie Anderson**

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## **Respect and trust**

My scientific mentors were always honest and positive, which helped me to develop resilience. Even in the face of terrible results, they would provide constructive comments. Especially at this moment in Brazil, where the conditions are not favorable for science, I will be forever grateful to them.

#### **Guilherme Martins Santos**

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I believe guiding with respect is the most important quality in a mentor. Respect encompasses not only treating kindly, but also truly listening, congratulating, encouraging students to be independent, and trusting our abilities.

#### **Ana Laura De Lella Ezcurra**

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My mentor gave me unconditional positive regard—she treated me as capable, smart, and likely to succeed, no matter whether things were going well or badly



in the moment. This gave me a safe space to be myself, experiment, and push my limits with less fear of failure.

#### Janine Farragher

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My mentor has always encouraged me to face my fears. This has helped me not only in the professional sphere but also in my personal life. There was a time when I was ready to give up my Ph.D., but my mentor's unrelenting faith and constant motivation kept me going.

#### Vandana Sharma

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What I valued the most as a trainee was the confidence my mentors had in my ability to make an impact as a scientist. As an underrepresented minority, it was empowering to have mentors who made me feel like I belonged and could hold my own with my peers.

#### Gregg Duncan

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My mentor has always valued my input and treated me as an equal. This has allowed me to approach problems with a sense of freedom and comfort, giving me confidence to embrace creative solutions without fear of being dismissed.

#### Ken Dutton-Regester

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## Honesty and open communication

My preceptor in my medical course fostered an open environment—a safe place where students could share their thoughts without feeling judged. He was open about personal and uncomfortable topics, such as social anxiety, and offered insight about how to deal with the many challenges I faced.

#### Sun Ae Kim

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My first mentor shared not only his publication and research goals but also the pressure and difficulties he had to face as an independent researcher. My current mentor shares with me what it is like to lead a group as a woman. Their willingness to be frank and honest with me has been helpful as I navigate my own career.

#### Sha Yu

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## Patience and freedom to explore

As the boss of a trainee, a mentor needs to provide clear instructions, guidance, and rules. As a senior colleague, the mentor needs to give the junior academic space and opportunities to develop his or her own ideas. A good academic mentor can switch between these two hats and establish a dynamic balance.

#### Beat A. Schwendimann

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My Ph.D. mentor gave me the opportunity to pursue my own research and is sensitive to the unique needs of training and research in an emerging country. His kindness, generosity, and scientific rigor have shaped my career.

#### Juergen K. V. Reichardt

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On the day my supervisor assigned my first project to me, he said, "Now you are the owner of this project. I am here to learn from you." Since then, he has been like a curious student, always challenging me to improve. Instead of mentoring me at every step, he allowed me to learn from my own mistakes.

#### Antarip Halder

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My thesis adviser has given me tremendous opportunity to find my own scientific voice, to unravel the narratives that speak to me, and to develop the techniques I feel the field needs. Sometimes I find myself lost in an overly ambitious experiment, with echoes of future I-told-you-sos ringing in my ears, but this creative space is where I learn the most.

#### Allison F. Dennis

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Given Brazil's unfavorable science funding landscape, my mentor's creativity was essential for me to carry out my doctoral thesis. He encouraged me to complement my bench work with review articles addressing emerging topics of my research field.

#### Joel Henrique Ellwanger

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When I began my doctoral program, I barely knew a thing about epidemiology. My mentor patiently taught me everything from scratch, from coding, to writing a manuscript, to giving a presentation. He was never pushy and always had his door open when I needed guidance.

#### Yu-Han Chiu

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10.1126/science.aav5914

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*Science* **362** (6410), 22-24.  
DOI: 10.1126/science.aav5914

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