

Making space for young speakers

To the Editor — The COVID-19 pandemic has affected all of us. Scientists and engineers are no exception. Among them, young researchers have suffered the most due to a limited number of conferences and seminars, where they used to give talks before being tenured or applying for jobs. Virtual seminar series such as the Synthetic Biology Young Speaker Series (SynBYSS) are a valuable platform for open scientific discussion and inclusive knowledge sharing within the community and with the public.

While giving presentations at conferences and invited seminars in 2021, I noticed firsthand the prevalence of speaker imbalance: most talking spots are given to male, senior faculty members. After realizing that my participation possibly took opportunities away from young people, I was motivated to begin SynBYSS. I started to send emails to my colleagues, soliciting nominations for young researchers to participate, and to my surprise, I received an overwhelming number of nominations within 24 hours. Encouraged by this community excitement, I also invited thought leaders and pioneers to give short introductory talks before each young speaker's main talk. 'SynBY' in Korean means a miracle, and the name SynBYSS was created to mean multiple miracles.

SynBYSS began on 26 August 2021 to help these young 'rising stars' with exciting support from 81 pioneers (including a Nobel laureate and 11 members of the National Academies of Sciences, Engineering, and Medicine), 93 rising stars, almost all the US government funders, many top journals, and over 1,000 global members of the synthetic biology community. This weekly, free, online seminar series will continue at least until 2023, and we hope that it will have a global impact on science and engineering through free knowledge sharing via Zoom and YouTube (<https://sites.wustl.edu/moonlab/education-outreach/>).

SynBYSS audiences are all over the world, and speakers work in many regions, including the United States, Europe, Canada, Asia, Australia, and the United Arab Emirates. Obviously, more diverse people from different regions of the world

should participate in this seminar series to make it a truly global event, although time-zone differences naturally limit who can participate in real time. Notably, I made the talk schedule such that the first four seminars consisted of seven female and six male speakers, although the number of male speakers is higher than that of female speakers in the series as a whole.

A seminar series featuring young people is not a new concept. In fact, I was inspired by the Distinguished Young Scientists Seminar Series, the pioneering seminar series that began in 2011 in the Chemical Engineering department at the University of Washington in Seattle. The ChemE Future Faculty Seminars, organized by multiple chemical engineering department chairs, also highlighted young chemical engineering trainees of diverse backgrounds in 2020 and 2021.

SynBYSS is unique in that it is a global event featuring rising stars in synthetic biology as broadly defined, encompassing such diverse topics as building genetic circuits for biocontainment, developing biosensors for biomedical and environmental applications, and metabolic engineering for valorizing waste and addressing the global climate crisis. At each seminar, a global thought leader gives a 5-minute inspiring talk, followed by the main 50-minute talk of the rising star, and ending with a more informal discussion. In this way, young scientists and engineers are connected to pioneers in synthetic biology who may be important future contacts. Additionally, young people interact with each other using Slack (<https://synbyss.slack.com>), sharing funding and job opportunities, as well as career advice. In response to requests for the recorded videos, especially from people in inconvenient time zones, all videos have been released on YouTube with permission from all speakers. As of 8 February 2022, the total number of video views was 17,252, and this number keeps increasing.

Such a program should not be limited to one field of study. I believe that many fields could use this model, and I encourage them to focus on young researchers and global

communities rather than senior researchers and local communities. Organizing and preparing for SynBYSS took me 2 months, exchanging more than 2,500 emails with people all over the world. I did not expect such a huge time commitment when I initiated this seminar series. However, multiple people can organize such a seminar series together, in contrast to SynBYSS, for which I recruited committee members and other organizations only later. For example, the ChemE Future Faculty Seminar series has been organized by many US chemical engineering departmental chairs who divide the work; administrative assistance is also exceptionally valuable. I urge education leaders to start their own global, virtual seminar series featuring young researchers. What could be more rewarding as an educator than nurturing our future scientists and engineers?

Each of these rising stars will educate future generations, promoting the continuation of high-impact research. By doing so, we can solve many global problems together, including the climate crisis, food issues, health problems, sustainable manufacturing, technological inequality, and affordable education. Our future depends on the younger generation, and I hope that activities such as SynBYSS offer opportunities and serve as a model for other communities to engage their most precious resource. □

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Competing interests

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