Voices of Chemical Biology: Charting the Next Decade

We recently asked our Editorial Board members to answer the following question: “what paper would you like to read in the January 2026 issue of Cell Chemical Biology?” We received more than forty responses, and if you are interested in what our Editorial Board members came up with, you can read all of the titles in the editorial that accompanied our January 2016 issue (http://www.cell.com/ccbio/fulltext/S2451-9456(16)00002-7). The world cloud you see here will also hopefully help to orient you with respect to some of the big themes that were on the minds of those who answered our question.

What we liked about putting together the imaginary Table of Contents for that future issue of Cell Chemical Biology was both the breadth and the number of the suggestions we received. To start with, if the first issue we publish in 2026 includes that many research articles, it would mean that the field of chemical biology will have undergone incredible growth over that decade, which would be fantastic to see and experience. In addition, if all of these articles are to materialize, it would be not only feathers in the caps of the space agencies looking for life on Mars, because two papers on our to-be-published list feature biochemistry- and molecular biology-focused investigations of living systems of Martian origin, but more importantly, it would show that chemical biology has effectively tackled some of the biggest questions in science and medicine today.

Now we want to take the next step and issue a call to action. We believe that many of the papers on our wish list should be written sooner rather than later if we are to find lasting solutions to the problems we face today: overcoming antibiotic resistance, creating life de novo, engineering microbes to be multitasking small molecule factories, shortening the drug development pipeline to go from phenotype to small molecule to target in one day rather than over months, getting to a view of the human connectome in a blink of an eye, or viewing the state of our proteome using nothing more than a smart phone. If we stop now and leave this imaginary Table of Contents as it is—an interesting, perhaps even inspiring set of ideas—all of these visions of the future might remain just passing wishful thoughts. This is just not good enough for us, and we suspect that this is not good enough for you, the members of the chemical biology community.

How can you help? You can share with us your opinions about what the field will need to do to generate the breakthroughs that will make the next decade busy yet thrilling, demanding yet electrifying, and that will leave everyone astonished at what chemical biology has delivered and eager to join in moving the goals even farther. We want to start the conversation and we are especially interested in making your voices heard. Over the next few months, we will open some of these topics and questions for further and broader discussion, and we plan to publish the responses we receive as Cell Chemical Biology Voices, a new format that will capture brief opinion pieces from scientists around the world and in different stages of their careers. What we want these pieces to convey are personal viewpoints on how to push the thinking in the field beyond what is feasible at the moment, how to think outside of the box, how to best define the box, and whether there are any best practices in other fields that we can learn from or any problems that others are facing that chemical biology knows how to answer. What are the bigger trends in science or the society that could help or hinder our progress? If you are curious to see what the Voices format looks like, take a look at our sister journals Cell, Cell Systems, and Cell Metabolism, which have all used the Voices format to explore interesting aspects of science and the issues that scientists are facing.

Overall, we recognize that some of these problems and questions might seem outlandish or unrealistic—who knows if Mars was ever home to thriving life forms—but that does not make them any less provocative, engaging, or valuable. We hope you are willing to explore with us and we look forward to reading your e-mails, tweets, letters, or any other way in which you decide to get in touch with us. Our e-mail is chembiol@cell.com, our Twitter handle is @CellChemBiol, or, if you think best face-to-face, our office is located at 50 Hampshire Street, Cambridge, MA 02139. Help us to move chemical biology into the future!

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