

Career advice for young scientists from 3 Lasker Award winners



Posted by [Joseph Caputo](#) | Published September 06, 2017, 00:30

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The annual [Lasker Awards](#) recognize the achievements of some exemplary members of the biomedical community whose work is already making an impact on science and society. Awarded on September 6 this year by the Lasker Foundation, the three awards recognize scientists, physicians, and public servants who've made major advances in the understanding, diagnosis, treatment, and prevention of human disease.

For the third year in a row, *Cell* will [celebrate these advancing contributions with a series of commentaries and personal essays](#) from the winners themselves. But this year, we've decided to reach out to three of last year's winners to provide some personal insight on the awards and what they've learned about shaping a career in science.

Is there anything a young scientist can do to help set up their career for work that makes an impact in their field?

"You will likely want to train in a well-respected and highly competent laboratory. But resist the temptation to carry on in that field! It will almost certainly draw you into an area crowded with able people like yourself. Be bold. Do something different that no one thinks is important—when you've succeeded they may change their minds."

— **Peter J. Ratcliffe**, University of Oxford, Francis Crick Institute

2016 Co-winner of the Albert Lasker Basic Medical Research Award for discovering the pathway by which human and animal cells sense and adapt to changes in oxygen availability.

"The most important ingredient for a successful career is finding a topic that excites you, digging in to answer interesting and important questions, and having a real passion for science—it's not work, it's a hobby, and there's nothing else you would rather be doing (at least most of the time...)."

— **Charles M. Rice**, The Rockefeller University

2016 Co-winner of the Lasker~DeBakey Clinical Medical Research Award for developing a system to study the replication of hepatitis C virus and using this system to invent drugs that cure the illness.

"Curiosity and interest in a given topic as well as a strong passion for science are the main drivers for success, because only then are you willing to invest your time, efforts, and energy into your work. This is important because explorative research requires high perseverance and frustration tolerance that you can only raise when you are sufficiently interested in finding the answer to your research question.

"It is impossible to make predictions whether or not a young scientist will be successful, but it is very important to network and make tight links to key figures in the respective field of interest in order to be informed what's going on; [attending relevant meetings](#) and giving presentations to make others aware of your work; and [practice good presentation skills](#). Good analytical thinking and [adequate writing skills](#) are equally important, as are a person's skills to motivate people and to create a team spirit within your group that is characterized by complementarity rather than competition.

"Last but not least, having a bit of luck is also important, and there are several examples where important discoveries have been made by serendipity. What is required in such cases is the capacity to realize that an important discovery has been made."

— **Ralf F.M. Bartenschlager**, University of Heidelberg

2016 Co-winner of the Lasker~DeBakey Clinical Medical Research Award for

developing a system to study the replication of hepatitis C virus, and for using this system to invent drugs that cure the illness.



What advice or mentorship made a difference in your career?

"I'm thankful to many people who gave me terrific support—but particularly to those who generously gave their support without all that much advice."

— **Peter J. Ratcliffe, University of Oxford, Francis Crick Institute**

"I've had many great mentors and advisors. Perhaps the single most important person was my professor in introductory biology at UC Davis who really changed my thinking about science. He became my mentor and friend, providing my first research experiences and the opportunity to attend the physiology course at the Woods Hole Marine Biology Lab. This exposed me to some great scientists and showed me what research was really like.

"Another bit of advice came from a more senior graduate student when I was questioning my ability to really thrive in a lifelong career in science. We all know you can look around and always find examples of peers who appear smarter and more successful. His advice: don't sell yourself short, just go for it."

— **Charles M. Rice, The Rockefeller University**

"I obtained two important pieces of advice. The first one was 'think in stories, but remain open minded.' I always recommend to my team members to come up with a project outline at the beginning and use it to plan their experiments accordingly. Nevertheless, at the same time, I tell them to remain open-minded because unexpected results can be obtained that at first glance look like a failure but on second sight might indicate a completely new research direction or an important finding.

"The second one was 'don't jump onto every bandwagon, but remain flexible when situations are changing or new opportunities emerge.' In an era where research is often driven by mainstream and timely topics, it is not easy to stick to your original research portfolio for an extended time, especially when it might be deemed outdated by funding agencies or even the scientific

community. However, it gives you an identity, and people will link this topic to you and your lab. While I am not a big fan of changing topics too frequently, one has to remain open when new opportunities emerge. This can be technological progress such as knockout of genes by CRISPR-Cas9, or when considering infectious diseases, such as the recognition of [the pathogenic potential of the Zika virus.](#)"

— **Ralf F.M. Bartenschlager**, University of Heidelberg



How does being recognized with a Lasker Award or similar prize change your career? Where do you go next?

"The discovery process is addictive. All the time I'm looking for new things, but of course they rarely turn out. The recognition gives confidence to carry on."

— **Peter J. Ratcliffe**, University of Oxford, Francis Crick Institute

"The Lasker was very a nice surprise and a tribute to the work of many all over the world. Since I'm not in science to get recognized, I don't anticipate any career change. If anything, I am spending more time with the lab and less time traveling and at meetings. As for what comes next scientifically, you never know—that what makes science so exciting and addictive. Our work on hepatitis C spawned many new directions, and I am just as excited about the tomorrow's results and the next experiments as I was at the beginning of my career. The tools available today to dig deep and answer important questions are off the charts. I envy those who are just beginning; we have only just scratched the surface."

— **Charles M. Rice**, The Rockefeller University

"The Lasker Award has been an outstanding recognition, which I took on behalf of my research team and all the people in my lab who contributed to the work. I am very grateful for this honor, but it did not change the research we are doing or our future research plans. However, what has changed, at least to some extent, is the recognition from the outside, which comes along, for example, with invitations to give keynote lectures at meetings or

invitations to write review articles. While this is very honorable, one has to be careful not to become overloaded.

"We are still very interested in the molecular and cell biology of flavivirus and hepatitis virus infection. The time to intensify these projects is great because novel tools, such as correlative imaging methods, have become available to address topics that could not be studied a few years ago. The identification of the entry receptor for the hepatitis B virus (HBV), a virus for which no curative therapy is available, was also an important discovery. I am convinced these advances will help us to devise therapeutic concepts for a functional cure of persistent HBV infection that affects around 230 million people."

— **Ralf F.M. Bartenschlager**, University of Heidelberg

We hope everyone in the Cell Press community, whether it's your first day in the lab or you have a few honors under your belt, will appreciate these reflections. Feel free to provide your own answers in the comments—we will share some of these insights on Twitter at [@CellPressNews](#) and [@CrossTalkCP](#).



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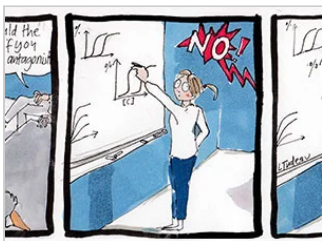


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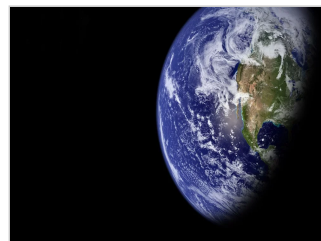
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