Interview

Prof. Dr. Abigail Doyle

University of California, LA

Q) As most of us will remain in the field of academia or pursue a research career, what is your suggestion to become successful?

Prof. Doyle suggests that one of the most important things for being persistent is to never let our failures impact us negatively. Trying to address new ideas, and challenges and strive for the best is the key to success. We should look for big problems and try to figure out the solutions. She also suggests that having a regular habit of reading recent literature not only from the top journals but also from the off-beat ones is necessary. We should also follow streams that are not always closely related to our interests. She also emphasized that failed reactions are not bad luck, it is very important to collect such experiences and analyze what went wrong. Doctoral students should be encouraged to aim high and try to solve even risky but challenging problems, at least in the first year of their studies. Doing one reaction less to read more, even outside our fields is very important.

Q) Since you work a lot by merging data science and machine learning techniques with synthetic chemistry and because of the rapid growth and development of AI tools, ML, and data science, where do you see the field of organic synthesis and method developments going after 10/20 years? As a student who has no prior knowledge of programming languages and data science, do we need to upgrade ourselves to cope with this?

Prof. Doyle believes that there will be a certain time in the future when these tools will be majorly used to predict reaction outcomes, help design catalysts, etc. Students should learn basic programming languages as these make life a lot easier and there are a lot of free resources available to learn them. Designing a predictive model for optimization studies, reaction investigation, substrate scope, etc. with ML and data science tools saves a lot of time and is more productive.