

A comment once made to me was that graduate school is a process for turning students into colleagues. That statement has become a core aspect of my advising philosophy. My research addresses fluid dynamics of propulsion and turbomachinery, propulsion system and aircraft integration, and advanced aircraft design. It includes aerospace and power producing turbomachinery (component technology), as well as larger scope system questions, such as performance assessment of boundary layer ingesting aircraft. I am part of the Gas Turbine Laboratory (GTL) which has a long history of collaboration, internally and externally. Much of my research has involved not only students, but other MIT faculty, faculty at other universities, especially Cambridge, as well as industry and government colleagues. Meetings with students can therefore take place with several advisors and one or more students. In addition, for the larger projects (for example a wind tunnel experiment at one of the NASA facilities) there can also be meetings with the whole team.

I strive to have the projects result in a tangible *impact* on the field and to yield an *intellectual nugget*, a phrase coined by Professor Jack Kerrebrock, a former Department Head. The latter criterion implies emphasis on student learning of *concepts* as we work together. Another objective is a strong, and shared, engagement in the research. Creating high quality publications is a further important aspect, and I spend time helping students improve their writing— communication is a skill that transcends graduate school and becomes more useful as careers progress.

As far as logistics, co-advisors and I meet with the students once a week, sometimes more often if there is a need. I want the students to present to sponsors and to go to conferences, but my view is that the latter should be driven by whether we have something important to say. I hold myself responsible for the funding arrangements and try to keep those out of the technical discussions, so students can focus on the research. I expect students to take advantage of having space in the GTL by interacting with their colleagues, because interaction with their colleagues is another useful opportunity to learn. I do my best to mentor and I hope that, if students feel adrift about career questions, choices, or have any other concerns, they will come to me for help.