

**Leaven Gathering, September 22, 2023.**  
**Opening Comments by Alex Dowling.**

David, thank you for organizing today's conversation and this series of gatherings.

I am going to seed our discussion with a brief reflection on the question:

“How should graduate education and postdoc training at Notre Dame be uniquely informed by our mission?”

Our undergraduate classes, composed of predominantly Catholic students, have a unique ethos. I invite us to reflect on how the world's leading Catholic research institution should approach the training, mentoring, and education of the next generation of scholars and intellectuals. Many of our graduate students are not practicing Catholics but are still united around a common mission of scholarship and research as “a force for good in the world.”

Why graduate students? Many of us have more contact hours weekly with our graduate students, especially the Ph.D. or M.S. students we supervise. Over the course of 4+ years, we serve as the mentor, coach, cheerleader, advocate, and supervisor of the next generation of intellectuals. How should this relationship be uniquely shaped by the ethos of Notre Dame?

To catalyze our conversation, I want to share three brief stories from my last 6 years at Notre Dame.

Story 1: I teach a graduate math class for scientists and engineers predominantly taken by our first-semester Ph.D. students. I set aside 15 minutes during the last class session to reflect on the graduate school experience more holistically. I share that I have the “where is my life going” conversation with many graduate students, at their request, that goes as follows: “What do I want to do after graduation”, then “What do I want to do with my career”, then “What do I want to do with my life”, then “What is the meaning of life”. I tell the students this normal conversation; they should have it with a trusted mentor. Moreover, at many other schools, the answer is, “stop wasting your time... that is not science... where is your next paper/chapter?”. But at Notre Dame, we value the pursuit of knowledge across disciplines. I encourage the students to engage in this line of inquiry constructively. Make friends with a philosophy graduate student. Join the environmental humanities email list and social events. I remind them they are very smart and their intellect should not be applied

solely to technical pursuits. I then give each student a copy of *Laudato si'* as a professional development Christmas gift (thank you discretionary funds) and explain how this had a big impact on how I think about the trajectory of my research career. I emphasize that *Laudato si'* considers environmental stewardship from the perspectives of world religions, not just Catholicism, and advocates the interdisciplinary scholarship and integration of knowledge; caring for the environment should not be viewed through solely a technical lens.

Story 2: A few years ago, a graduate student asked to talk about life over coffee. Their central question was, "Alex, you have children. Do you mind me asking, how do you reconcile bringing children into the world with the overall declining trajectory of society, especially the climate crisis?" This is a difficult question that led to a great discussion. And I think this is the type of conversation that students and trainees should be comfortable having with faculty. Personally, this was an opportunity to live out our call in Peter 3:15 (paraphrasing) "be prepared to give your reason for hope".

Story 3: I lead a modest National Science Foundation-funded project to create new pedagogical frameworks to train doctoral students to ask transformative research questions, i.e., broad-impacts focused research, not research with broad impacts as a necessary afterthought. We explicitly teach our students how to "be forces for good" with their research careers. With the help of an amazing team of colleagues, we ran a workshop series this summer where ~20 engineering and science doctoral students identified research questions and hypotheses stemming from barriers to solving societal challenges. Several students shared that their favorite part was when the faculty team circulated around the room for quick one-on-one check-ins. Engaging with faculty from outside their research area who are passionate about translational research with real-world impact was extremely empowering. For this project, the goals of the National Science Foundation, training better researchers, aligned with our mission. But what other opportunities are we missing?

In conclusion, I invite us to discuss the many opportunities to integrate Catholic teachings, e.g., social justice, the dignity of every person, with research and mentorship that complements the diverse religious, spiritual, and cultural backgrounds of our graduate students, post-docs, and colleagues.