

Student and Early Career Scientists Corner

*Challenges and Opportunities for Christians in Science
at the Beginning of Their Careers*

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*Johnny Lin, Pam Veltkamp, Randall DeJong, Steven Hall, Ruth Douglas Miller, and
Don Munro*

The 2001 American Scientific Affiliation (ASA) annual meeting held at Kansas State University, July 20–23, featured a panel discussion entitled “Challenges and Opportunities for Christians in Science at the Beginning of Their Careers.” The members of the panel were all within the first twelve years of their careers and included: Randall DeJong, a Ph.D. student in biological sciences at the University of New Mexico; Steven Hall, an assistant professor of Biological and Agricultural Engineering at Louisiana State University; Johnny Lin, a postdoctoral researcher in climate dynamics at the University of Colorado at Boulder; Ruth Douglas Miller, an associate professor of electrical engineering at Kansas State University; and Pam Veltkamp, an associate professor of chemistry at McMurry University. Don Munro, executive director of the ASA, moderated the discussion.

The panel represented a wide-range of academic experiences, including Christian and non-Christian universities, different places on the career ladder, and different experiences with integrating work with family and marriage. The session was informal, with much exchange of ideas between panel and audience members, and greatly benefited from the wealth of experience found in the audience. In this article, we share thoughts stemming from this discussion, focusing on three topics:

- Relating to the scientific community
- Living obediently to Christ
- Building communities and networks of encouragement

Relating to the Scientific Community

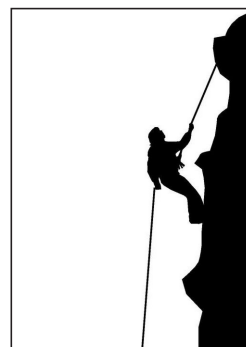
The notion of a conflict between Christian faith and science has been influential in academia in the United States for much of the twentieth century, and many Christians starting careers in science have had to struggle with the questions it poses. What is my relationship with the scientific community? Will my colleagues be hostile or receptive to my faith, and why or why not?

Some in the panel have experienced opposition to open expressions of their faith. Munro recounted how once during graduate school he was asked to speak about creation/evolution issues at the local InterVarsity Christian Fellowship undergraduate student weekly meeting. In the room was a cub reporter for the student newspaper who reported Munro’s statements but recorded them erroneously or out-of-context. Naturally, this came back to Munro’s department and his advisor, who told him, “Keep your mouth shut until you’re finished with your Ph.D., and then you can say anything you want!”

For Hall, hostility to his faith has been personal, as opposed to departmental or cul-

Randall DeJong recently received his Ph.D. in Biology from the University of New Mexico. He currently works as a postdoctoral research scientist at UNM, studying the molecular genetics of human schistosome parasites and their host snails. He also enjoys volunteer work with InterVarsity at UNM.

Steven Hall is an assistant professor in Biological and Agricultural Engineering at Louisiana State University and the LSU Agriculture Center in Baton Rouge, Louisiana. He has degrees in mechanical, agricultural, and biological engineering from State University of New York at Buffalo, University of California at Davis and Cornell University. He and his wife Rebecca teach at churches and universities and participate in a variety of creation care issues. They welcomed Grace, a gift from God, born in September 2002.



Randall DeJong



Steven Hall

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tural. Specifically, while there has been no formal statement limiting his ability to express the basics of his faith, some faculty and staff members have dramatic anti-religious responses. Hall says this has allowed him to witness compassionately about the good side of faith, and he does not condone abuse in the name of Christianity.

For Miller, the opposite has been true. In the Department of Electrical Engineering at Kansas State University, 20 of the 24 faculty are confessing Christians. No one she knows has become upset with her because of her faith. In contrast, Miller is often frustrated that the staffs of some of the Christian fellowship groups on campus continue to insist that the university is hostile to Christianity.

Veltkamp, being a faculty member at a Christian college, has not encountered hostility to her faith. However, she has found the tables are turned somewhat. Some of her students, from Christian backgrounds, enter college with doubts about science, such as the validity of evolutionary theories or estimates of the age of the earth. For instance, a few years ago two students were referred to Veltkamp by one of the religion professors: there had been a discussion of the age of the earth in their religion class, and the students were uncomfortable with the concept of an old earth, as well as with the idea that this concept would be taught and accepted at a Christian college, in a religion class. Veltkamp had the opportunity to discuss with these students her own faith journey and how she saw Christian faith and science working together. She also provided them with a few copies of *Perspectives On Science and Christian Faith* to peruse for other viewpoints on their questions.

Lin's experience has been that interest from others in issues of faith, whether positive or negative, has not been very great. He

has encountered politeness and respect from his peers, but there has been a barrier to carrying on conversations of greater depth. While he has encountered some antagonism and some genuine interest, issues concerning faith have mostly been ignored.

Such a variety of responses underline the obvious: the relationship between a Christian in science and the scientific community is complex, characterized by everything from hostility to indifference to receptivity. For Christians just starting their scientific careers, the challenges and opportunities in relating to colleagues are also multi-faceted. We cannot assume our colleagues will respond a certain way to our faith. We must instead learn to discern the motivations, attitudes, and views that make up the individual, community, and cultural responses from our scientific colleagues, and dream up imaginative ways to engage them: to meet hostility with truth and love, to counter indifference with the nurturing of interest, and to encourage receptivity with a call to mutual challenge and growth.

Living Obediently

Christian discipleship, being holistic and all-encompassing, also demands an obedient response from the Christian scientist as a scientist. What is the role of excellence for a Christian in science? How do we build a larger vision, to connect our scientific work with the worship and following of God? And how do we accomplish all this while negotiating tenure?

Role of Excellence

Almost every scientist wishes to "succeed" and make an important contribution to his or her field. But how important should this desire be? How integral is being "first-rate" in our fields to our calling as Christians in science? Is it "okay" to be "second-rate" in our field, as long as we are "first-rate" in our walk with Christ?

Hall felt that the core issue is excellence at what cost: the ends do not justify the means, and in the final analysis one needs to be able to live with oneself. In his case, he had to turn down an attractive job offer that required "ethical flexibility." He ended up quitting a job working for a military supplier due to frustrations that at best his work would be totally unused, and at worst he



Johnny Lin



Ruth Douglas Miller

Johnny Lin is a postdoctoral researcher at the Climate Systems Center at the University of Chicago. He received his B.S. in Mechanical Engineering and M.S. in Civil Engineering-Water Resources, both from Stanford University, and his Ph.D. in Atmospheric Sciences from UCLA. He studies the interaction of Arctic sea-ice with the atmosphere, and his favorite ice creams are daiquiri ice and French vanilla.

Ruth Douglas Miller received her B.S. from Lafayette College, Easton, PA; M.S. and Ph.D. from the University of Rochester, NY, all in electrical engineering. She has been at Kansas State University since 1990, first as an instructor, then assistant professor, and was promoted to associate professor in 2002. She works in the field of Bioelectromagnetics, studying the interaction of electromagnetic fields and biological tissues.

Student and Early Career Scientists Corner

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would contribute to destruction and misery. Another way Hall has seen the temptation to attain excellence "in the wrong way" has been in the allure of seeking funding from agencies that behave in ways at odds with his faith.

As someone with many titles (professor, advisor, mentor, wife, mother) but only 24 hours in a day, Miller realizes that she cannot be number one in each of her roles. Thus, she has consciously set limits as to what she will sacrifice in her quest for tenure, specifically deciding to draw the line at anything that might jeopardize her relationships with her husband and son. She knows that she will not become an engineer whose name everyone recognizes, because she has set her priorities in a different way.

Similarly, Munro has found that there just isn't enough time to excel at everything he's wanted to. At the beginning of his 28-yr. career as a professor at a small Christian college, he went into his job very excited, motivated to bring top-notch research to his school. But soon he found that students and courses needed his time, and that the time constraints at a small college do not generally allow one to do world class research. Munro finally decided to make his contribution in "smaller" things (e.g., studying the ethics of genetic engineering, participating in summer research projects) and in sharing his life and time with students.

Two themes repeated themselves in the discussion on the role of excellence. First, excellence is both important and desirable: through excellent work, the Christian in science bears witness to the excellence of God. But for each individual, God has given different sets of priorities, gifts, and talents. For some, a more focused pursuit on doing excellent science may be part of that list of priorities. For others, faithfulness to those priorities may require scaling back one's research commitment. Either way, wisdom and discipline in being faithful to God's calling, in all aspects of our lives, is vital for us to put scientific excellence in its proper place.

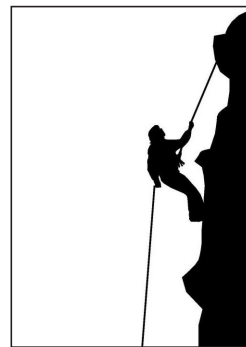
Vision

The vision to connect our faith to our work can manifest itself in many ways and areas. For Hall, his position as a faculty member is as a "tentmaker" who has dual callings: witnessing (or "profess-ing," after a similar

statement by Cal DeWitt) to students, faculty, and staff; and contributing to society through his teaching, research, and service. As part of that vision, Hall tries to integrate his faith with his research, and finds many opportunities to do so. For example, the theme of the 2001 ASA Annual Meeting, the care and stewardship of creation, readily applies to his work in engineering and ecological health. Miller too has found a number of areas of fit between her work in electrical engineering and her life of discipleship: ethics in technology, for instance, has played an important role. For DeJong, a vision of obedience to Christ in his workplace has shown itself in terms of his interactions with his fellow graduate students. He has found few Christians in biology and finds that kindness goes a long way.

In a Christian college, Veltkamp finds it is easier in many ways to live the vision of being obedient to Christ, since her colleagues also live the same vision. However, in this environment she finds a different, and perhaps unexpected, challenge: complacency about wrestling with how faith and career intersect. When one's colleagues share (more or less) one's own beliefs, it can be easy to stop discussing faith/career integration. At her school, because there are no requirements regarding specific church membership, there is a diversity of Christian faith backgrounds. This has been enriching and helpful to Veltkamp in working against the complacency that can sometimes arise from homogeneity.

But many new scientists find it difficult to latch onto or persevere in a vision of connecting their faith to their work. Questions of "why am I doing this narrowly focused research?" and "what is supposed to be my contribution to the field given my relative



Pam Veltkamp



Don Munro

Pam Veltkamp earned a B.A. in Chemistry from Dordt College, Sioux Center, IA, in 1984. Her Ph.D. (Analytical Chemistry, 1991) is from the University of Colorado-Boulder. After teaching at Dordt five years, Pam moved to McMurry University in Abilene, TX, where she teaches chemistry and environmental science and is chairperson of the Chemistry Department. She enjoys gardening and bird-watching.

Don Munro received his B.S. in Biology from Wheaton College and M.S. and Ph.D. in Zoology from the Pennsylvania State University. He was a US Army officer, taught biology for one year at Radnor Senior High School, and served for 28 years at Houghton College, including 25 years as professor and head of the Biology Department. For the last nine years, he has served as Executive Director of the American Scientific Affiliation and adjunct professor of biology at Gordon College. He is married with two children and two grandchildren.

lack of knowledge?" are just a few of the struggles new scientists face. As a postdoctoral researcher, Lin was quite surprised to find how the temporary nature of his appointment, and the uncertainty associated with no longer having a graduate advisor to "protect" him in the research community, sapped his desire to live out a vision of integrating faith and learning. As a graduate student, this vision was worked out in the security of a community of like-minded graduate students. What did it mean to work on this vision more or less alone, and in a one- or maybe two-year position? Instead of being confident that God is an abundant God, who will provide in the midst of his research, Lin found his outlook in the world of research to be one of scarcity: there are only so many ideas and resources to go around, and so you are on your own, no one can help you, and no one cares. Where does one go from there?

In answer to these struggles, an audience member noted that even settling into a career does not necessarily bring permanence. Other factors may contribute to a sense of temporariness, such as discovering that one doesn't like one's location and deciding to move. For those in similar situations as Lin, the audience member recommended not focusing on the temporary nature of the situation, but instead to enjoy what is good about it while one is there. God is calling us to our work, wherever that may be. And that audience member suggested recognizing that the church is not only a community in space, but also in time, and that we can commune with the church in the past through the works of past Christian writers.

Building Communities and Networks of Encouragement

In all the areas we've mentioned, learning to relate to the scientific community and live obediently as a Christian in science, a nurturing community is indispensable. For nearly all of the panelists, communities and key individuals have played important roles in their journeys as Christians in science. For Veltkamp, Russ Maatman, an undergraduate chemistry professor and advisor who introduced her to the ASA; Bill and Chris Hooke, who hosted a graduate student Bible study in their home; and Ken Olsen and John Vayhinger, with whom she worked to start the Rocky Mountain local section of the ASA, all greatly influenced her. For DeJong, high school biology teacher Harlan Kredit was an important mentor. (He still remembers Kredit saying, no matter what the weather, "Isn't it a great day to be alive?!") As an undergraduate Miller saw active faith demonstrated in her chosen discipline through Ken Demarest, one of her professors. Hall, Miller, and Lin all benefitted greatly from campus ministries, such as InterVarsity Christian Fellowship's graduate ministry, during their formative years as scientists.

Christians just starting out in science often have twin challenges: to "learn the ropes" of being a member of the

scientific community, and to integrate their science and their faith. In both challenges, community is key. During the discussion, audience members encouraged young scientists to maintain affiliation with their professional societies. One academic dean recommended seeking advice from senior faculty members and to be aware what the criteria for promotion are. Upon joining the faculty at Kansas State, Miller found a colleague on the electrical engineering faculty who herself had gone through raising a family while on the tenure-track and thus was able to mentor Miller. It is extremely easy for young scientists to become too focused on the work at hand and to neglect the building up of collegial relationships. Sometimes this can lead to burn-out; other times, the isolation saps creativity and growth as a researcher. Many times, such professional isolation hinders career advancement and joy in one's work.

The importance of community to Christian growth, of having a close connection with a local group of believers, almost goes without saying. Even though young scientists often have "too many balls up in the air," they must maintain fellowship with other Christians, and if possible, with Christian academics. The latter might be done, for example, through a lunchtime book discussion group or a local ASA section. Many universities have a graduate student or faculty/staff fellowship, both of which may be well suited for a Christian postdoc or assistant professor/researcher. Parachurch organizations such as InterVarsity Christian Fellowship, Campus Crusade's Leadership Ministries, and Reasons to Believe may also offer resources for those seeking to grow such communities of scientists. It does not take much for the passion of integrating faith and science to become lukewarm embers. Christians starting their scientific careers need to find others with whom they can speak encouragement to each other.

Conclusion

Christians beginning their careers in science face a variety of challenges and opportunities. Many find themselves learning how to relate to the professional community they have entered, to translate obedience to Christ into their workplace, and begin new (or extend existing) communities that will nurture both their scientific and faith lives. It sometimes seems overwhelming, trying to balance multiple priorities and adjust to new career responsibilities. But with these challenges also come opportunities:

- to learn new skills, both in research and in life;
- to discover new avenues of connecting with scientific colleagues and fellow believers;
- to seek out "iron sharpening iron" relationships that will lead to a deeper connection between faith and work;
- to learn new ways to obey, depend on, and worship God.

Within the craziness of beginning a career in science, as with all aspects of life, there is the opportunity to more deeply know and be known by God. And, because of that, it is a challenge worth meeting. ❁