



Science College Teaching/Research

How You Can Help Young Christians in Science

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This longer edition of the "Young Scientists' Corner" is primarily intended for those who would like to know how to encourage the younger generation of Christians entering scientific vocations. These are exciting times for those of us entering careers in science as Christians. With relativism governing many philosophies in the humanities these days, the sciences remain (ideally) devoted to the pursuit of Truth, and consequently many young Christians are attracted to the sciences and are pursuing productive and creative careers. There is a level of openness and curiosity about Christian faith among young non-Christians in the sciences that stands in contrast to the antipathy between religion and science often assumed in decades past. We feel the excitement of opportunity to reach out to our scientific colleagues with the Light of the Gospel, to serve in science as our Christian calling, and to share the discoveries of God's creation with our fellow Church members. But we need encouragement and support.

There are ways that more experienced scientists and the ASA can help. Over the spring and summer of 1997, five graduate student and postdoctoral members¹ of the ASA were invited to share ideas with each other, via an e-mail discussion group, on ways ASA members can help us to be fruitful, and ways young scientists can help the ASA. Our recommendations were presented as a report to the ASA. Highlights are summarized here under four main concerns: vocational direction, personal support, outreach to the Church and to the world, and young people and the ASA. A fifth section reviews suggestions for ways experienced ASA members can help us.

Choosing a Scientific Vocation in a Changing World

Science is inevitably directed largely by the motives of those providing the funding and support. Science funding often ends up directing what questions get asked, and what kind of "truth" is sought. As young scientists looking for stable job support, it will be almost impossible not to be swayed by money/job availability. The giant drivers of much of science research are profit-seeking corporations and military/government concerns. While these directives have merit in their own right, the percentage of science funding from alternative organizations is possibly shrinking (e.g., the NSF, charities, nonprofit organizations, research branches of the government, etc.). Ethical issues are also growing in complexity. Young scientists are finding themselves working and grappling directly or indirectly with tough issues such as bioethics, cloning, human fetus research, animal experimentation and alternatives, and weapons research. Political and economic pressures are affecting the balance of "applied" versus "basic" research.

Young Christians in the sciences can no longer simply follow the conventional steps of a scientific career path without understanding the bigger picture of the directions and global implications of science and technology. We could benefit from the wisdom of more experienced ASA members in helping us to choose our career paths such that we can be most effective in molding the direction of research or teaching in our

spheres of influence. We need to be made aware of the pros and cons of all sides of complex ethical issues. And we need to be educated and prepared if we are called upon to "speak out" about issues threatening the world today (e.g., sustaining growing populations, pollution, habitat destruction, spread of disease, etc.). If we enter teaching, we need to learn about creative methods that present the details and the history of science in ways that bless students and honor the Lord.

Personal Support

Young Christians need encouragement to see their calling as scientists as a valuable Christian vocation. Though there are painful exceptions, the work environment for most Christian students in science today is not hostile. In fact, there are many young Christians in training in the sciences. Christian fellowship groups for graduate students are beginning to form and flourish on many campuses, and a large percentage of these Christian graduate students and postdocs are scientists.

It is during these formative years that young scientists are faced with some weighty decisions. For example: What kind of thesis research should I pursue? My advisor has asked me to do fetal tissue experiments; should I refuse and risk my position in graduate school? (This really happened to one student.) How do I explain my faith to my advisor and my fellow graduate students? Wouldn't it be more valuable to God for me to join some of my Christian friends who are planning careers as evangelists or in direct ministry to the poor rather than to spend my life, for example, evaluating molecular spectra? Traditional Christian churches and circles do not always recognize the unique environment that the young Christian scientist faces. Science is sometimes viewed with misunderstanding and suspicion or ignored as unspiritual. These reactions are discouraging to young people who want to choose a career path that glorifies God. Hearing encouraging talks from older Christian scientists can be a great encouragement to younger people seeking guidance.

Personal issues also come into play as students and postdocs prepare for a lifetime career. How do single scientists find a circle of supportive, believing friends when they are no longer students? How does one balance family life with career calling? In past decades, most scientists with children were men in "one-career" families where their wives could help them by carrying much of the load of child-rearing and domestic support. Today, more women are entering scientific fields, and of these women scientists, those who marry often marry scientists. These partnerships can produce amazing opportunities for joint service in science. Yet this does often mean that now two adults are juggling two scientific careers, trying to be productive and publish, and seeking tenure during the years of raising young children. These young Christians want to be able to serve God faithfully as good scientists and also to be good, nurturing parents. They have questions: How can we be most supportive of our spouses as scientists and as parents? Should our career goals and expectations be lessened or dropped to allow for more time with our children? Or, if our scientific opportunities are truly God's calling, then how do we work out a cooperative balance of child care and research time with our spouse? Meeting Christian scientists who have trod these difficult paths is a great encouragement.

Christian women are serving in growing numbers as researchers, laboratory directors, and teachers in both Christian and secular universities and laboratories. These expanding opportunities to use scientific talents are encouraging. Yet there are sometimes few role models or little encouragement for science as a calling from traditional Christian circles. (A recent ASA-related conference for Christian women in science at Eastern College was attuned to this need.) Young scientists from traditionally under-represented ethnic groups can also feel a deep sense of loneliness and self-doubt. Having Christian "mentors" can help to continually revitalize our vision for science as a personal calling and ministry.

Outreach to the Church and to the World

"I think the most important outreach of the ASA is to nonbelieving scientists." This is a quote from one of

the contributors to this report; we all feel that reaching out to our colleagues is an important desire we face in our everyday lives. We work side-by-side with colleagues and friends from many different countries and religious backgrounds. We want them to know the Lord, but we recognize that some popular methods of sharing the Gospel are not appropriate or helpful for our scientific friends. Many times our friends in science have heard Christian viewpoints through the media that give the impression that Christians are ignorant about science or that they reject what seems clear from scientific research. Naturalistic philosophy and scientism are also at work in the worldviews of some. We would find it helpful to learn ways our more experienced Christian colleagues have reached out to their scientific peers. Clear materials, which would introduce our friends to the Christian faith while embracing modern scientific discoveries, are needed.

We are also challenged by the need to reach out to our Christian friends. Churches and Christian schools are sometimes heavily influenced by the perception that Christianity and scientific processes (e.g., Big Bang cosmology, evolution, etc.) cannot mix, and that Christians must always have a "defensive" stance toward science. This is tragic because our Christian friends can miss out on rejoicing in some of the wonderful discoveries about our universe that reveal God's glory and creativity. And Christian children can be discouraged from considering scientific careers. Many of us enjoy going into schools and churches and offering presentations and classes relating faith and science. Diligent observations of God's creation and the faithful presentation of our discoveries should draw people to the Lord in a powerful way. We would benefit from having materials to present in these settings as well as examples of how to find and use such opportunities to the fullest.

"Outreach" can also be viewed in the prophetic sense and can include speaking out about environmental destruction and the misuse of technology. Another part of "outreach" is to share the wonders and the benefits of scientific knowledge and opportunity with the poor and others who might otherwise be left out. It helps us to hear of ways to join in such efforts.

Young People and the ASA

Young scientists must join the ASA and remain in it if it is to continue to thrive. We believe the ASA can be a great help to young scientists, and we are glad and honored to know that the ASA is seeking to serve younger scientists in new ways. One result of this concern is the appearance of this "Young Scientists' Corner" in *Perspectives on Science and Christian Faith* - very nice! We hope, also, that more people will write articles for *PSCF* from experience about the "nuts-and-bolts" of being a Christian researcher or science teacher, such as papers about discerning God's will for a career, sharing faith with scientific colleagues, running a laboratory, surviving the tenure track, and maintaining family and professional balance.

Many of our young colleagues have simply not heard about the ASA. But a great way to get the word out is for ASA members or local sections to provide literature, books, and speakers to campus graduate school Christian fellowship groups and campus-related churches. This is an effective way to establish relationships with young scientists, who seem to be joining graduate fellowships in larger numbers than ever before. There are also regional and national conferences now for Christian graduate students, and having an ASA presence at these meetings is crucial to encouraging students and advertising the ASA.

One student commented that visiting local ASA section meetings can be a bit intimidating because of the stark age and career differences between most of the attendees and the few students attending. Perhaps occasional meetings could be arranged with special efforts to invite students from the area.

Even secular scientific conferences can provide opportunities for Christian fellowship. I am a postdoctoral astronomer. Over the past two years, Christian astronomers, including students, postdocs, and faculty, have gathered informally for lunch during the annual national professional astronomy conference to meet new

friends and discuss being Christians in astronomy (and we introduce these new friends to the ASA, too).

What Can You Do to Help?

How can you help young Christians considering a calling to serve as scientists? Many of you have gone before us living lives of faithful obedience to the Lord in your scientific careers. Here are some ways the ASA or individual Christian scientists can help us "carry the torch":

- Be a "mentor" to young Christians in the sciences. ASA scientists can visit local university chapters of Christian fellowship groups and meet the graduate and undergraduate students considering scientific careers.
- Help your new friends "one-on-one" to make wise decisions. It's unlikely that students will have the time or courage to seek out mentors on their own, but meeting Christian scientists who come to a friendly setting, such as a church or campus fellowship meeting, is a wonderful encouragement for students and a good way to start friendships.
- Help establish a network between ASA and related organizations like InterVarsity and science fellowships in other countries so that we can share resources (e.g., speakers, books, and conferences).
- Seek to be aware of current directions of science and career paths for young people, including the larger funding and ethical issues.
- Explain the differences between a career of teaching and one primarily of research.
- Show us how to have a healthy family life while keeping up with publishing pressures.
- Equip us to start our own discussion groups on campuses or in churches.
- Provide us with examples of courageous people who have made difficult decisions or statements involving science ethics and goals.
- Keep advertising job opportunities.
- Educate us about even "nontraditional" career and ministry options that might be our most effective service to the world.
- Help us to become aware of and to connect with groups serving the poor in various ways, such as teaching in the inner city, encouraging people to join in the scientific endeavor who have historically been left out, and improving living conditions in developing countries.
- Continue to provide materials we can use for outreach to our non-Christian colleagues and to the Church.
- Write articles for *PSCF* that discuss the "how-to" of being Christians in science.

This is a long "wish-list"! We are grateful that many of you are already striving to do many of these things. Perhaps the most important request is for fervent prayer that God would keep us all, young and old, tightly bound to the Vine, our Savior, the Lord who created the universe we study. May he raise up good scientific stewards who serve with love, and may he be praised and glorified by our service.

¹The contributors to this discussion and report include: Eric Arnoys, Michael Everest, Steven Hall, Johnny Lin, Liskin Swint-Kruse, and Jennifer Wiseman.