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Annual Meeting Special Edition

A Sense of Destiny

Vern Ehlers was content doing nuclear research at Berkeley, never aspiring to walk “the corridors of power” in Congress. Growing up on a Virginia farm, Francis Collins had no inkling that he would spearhead discoveries leading to life-saving medical breakthroughs.

At this year’s Annual Meeting, held at the Catholic University of America in Washington, DC, July 30–August 2, I sensed that God had placed them in strategic positions. From one standpoint, these men were elected by voters or appointed by the President. Yet in a higher sense, they and others were called by God. That anointing enables them to withstand the pressure and to work enthusiastically far more than the standard 40-hour work week. As the Apostle Paul said, “Woe is me if I don’t preach the gospel” (1 Cor. 9:16), these individuals would not be happy doing anything other than what God has equipped them to do.

Under the rubric of “Science, Faith, and Public Policy,” presenter after presenter seemed to exemplify the theme verse: “And who knows but that you have come to royal position for such a time as this?” (Esther 4:14b, NIV).

—Dave Fisher

2011 Annual Meeting

The 2011 ASA Annual Meeting will be from July 29 to August 1, in Naperville, Illinois, hosted by Wheaton College and North Central College. Co-chairs are Rod Scott and Jim Baird. The theme verse, Prov. 4:7, “Wisdom is supreme; therefore get wisdom. Though it cost all you have, get understanding,” sets the stage for the meeting that will be focusing on “Science-Faith Synergy: Glorifying God and Serving Humanity.”

“An Accidental Congressman”

The opening plenary speaker was one of three physicists in the House of Representatives. After a multifaceted career that included nuclear research at Berkeley and teaching physics at Calvin, Congressman **Vernon Ehlers** (R-MI) is completing his eighth and final term. Among his many accomplishments, he oversaw the writing of the first major science policy since 1945.



Vernon Ehlers

Newt Gingrich assigned him the job of computerizing Congress. That was a major project with many pitfalls, but he developed a uniform system for the House, with mostly new computers and a uniform software system.

While doing research at Berkeley, he declined several invitations to teach at Calvin College. When he finally yielded, he and his wife chose to attend a church near where race riots had occurred, to help the poor and stabilize the neighborhood. Concerned with the dilemmas of the poor, he realized part of the problem was the city commission, and he aided a number of good people to run for the commission.

When he entered politics, his mother was horrified but decided “whatever damage commissioners would do to their son in the morning, would be undone by Calvin faculty in the afternoon.” His next step was to serve in the Michigan House of Representatives and then the Michigan Senate.

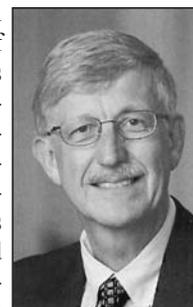
The Hand of Providence

When Representative James McDermott (D-WA) said Congress needed more scientists or scientific advice, Ehlers wrote his Congressman, Gerald Ford, to offer

Continued on p. 3, Accidental Congressman

A Scientist-Christian in the DC Fishbowl

Francis Collins says Woodrow Wilson’s remark, “I not only use all the brains I have, but all I can borrow,” is *a propos* to his situation. Speaking as an individual and not in his official capacity as director of the National Institutes of Health (NIH), Collins spoke on “Experiences of a Scientist-Christian in the Washington Fishbowl.” His mandate is to steward medical and behavioral research for the nation: “Science in pursuit of fundamental knowledge about the nature and behavior of living systems and the application of that knowledge to extend healthy life and reduce the burdens of illness and disability.” In an attempt to achieve that, he “borrows the brains” of 17,000 employees and administers a \$31 billion annual budget.



Francis Collins

President Obama nominated Francis in July 2009, and he was confirmed by the Senate in August. Compounding the usual first-year learning curve was the need to study the health effects of the BP oil spill, in coordination with CDC, EPA, and other agencies. In addition, when Congress passed the Economic Recovery Act “stimulus package,” Collins needed to strategize the best ways to spend \$10 billion within the two-year duration of the act. He involved 22,000 reviewers to decide how to allocate these funds. Unfortunately, however, science doesn’t operate on two-year cycles. When support from the Recovery Act expires, the projects “will run on fumes.”

Brilliance with and without Conscience

Collins realizes the dichotomy expressed by the late General Omar Bradley: “The world has achieved brilliance without

Continued on p. 3, Scientist-Christian

The Executive Director's Corner

Randall D. Isaac

This issue is devoted to a montage of moments at our annual meeting in Washington, DC, last month. We had one of the highest attendances ever at 250 registrants. It may have been the first time we held a meeting within easy walking distance of a subway station in a major metropolitan area. This was our first meeting at a Catholic institution and it certainly was the first time we explicitly addressed the theme of science, faith, and public policy. Our program chair, **Susan Daniels**, did an outstanding job organizing the program, aided by local arrangements chair **Paul Arveson**. Being in DC, they were able to attract exceptional speakers as well as a large attentive audience.

Many of us who have never worked in positions relating to public policy weren't really sure what to expect from this meeting. We were rewarded with a stimulating set of talks that showed how Christians in science are and can play a vital role in public policy. One pervasive message was a challenge to each of us to become involved in public policy. Our presence as Christians with an expertise in a scientific discipline can have a major impact.

I am indebted to my Wheaton College classmate, Mark Shepard, for recently alerting me to a book that espouses a very similar challenge. In April 2010, James Davison Hunter published *To Change the World*, and he was interviewed by *Christianity Today* in their May 2010 issue. Though he did not explicitly address the science community, I'd like to apply his concepts to that arena.

Hunter argues that a direct attempt to change culture through explicit confrontation on ideas or values will not be effective. He decries the politicization of many efforts to embed Christian values into our laws, whether from the right or the left. The Constantinian Christianity of dominance should not be our aim. Nor does he support quietism, or withdrawal from the public square. Rather, he maintains that as Christians we are called to live a life of "faithful presence." We are to be in the world, present and active as leaders and members of our professional and lay communities, faithful in our commitment to Christ and following him. Some of the most influential factors in shaping culture, he claims, are the elite institutions of society that choose to engage culture, that become incarnate rather than war against it. We need to be present and participate in those institutions.

What does this mean for us as Christians in science? First of all, I believe it means that we must strive for excellence as scientists. Each of us should seek to be the most respected, best quality scientist we can be in the most prestigious institutions of science. The quality of our work in science and genuine respect for others' work are crucial factors in our reputation in the scientific community. I have often written in this column and elsewhere about the importance of integrity in science. It is very important that ASA as an organization has a commitment to integrity in the practice of science. Without a high degree of integrity in our professional work, we cannot be present in the science community in an effective way.

Secondly, I believe it means that we must maintain fidelity to the gospel of Jesus Christ and continually seek God's guidance as to what that means. As our colleagues who do not share our faith experience our genuine engagement rather than a desire to dominate, we can also avoid compromising our faith or hiding our relationship with God. The ASA has a clear statement of faith, centered on the Apostles' and the Nicene creeds, that articulates the basic elements of Christian faith. Our commitment to the Word of God and to Jesus Christ, the Son of God, is fundamental in our walk with him.

Finally, combining these two elements into a "faithful presence" means, as Hunter puts it, that we need to live a life in "creative tension." We do not and will not have all the answers for integrating science and Christian faith. Hunter speaks of affirmation and antithesis. We must not com-

promise our integrity in science, twisting or modifying our notions in and of science in order to fit some convenient scheme of integration that we may prefer. Nor dare we compromise our faith, shading the basic tenets of our beliefs to force a better concordance. Neither cognitive dissonance nor compromise is an option. Rather, a life of creative tension means that we live in both worlds of science and faith, though we may not be able to solve all the tensions between the two. The creativity that flows from that tension may lead us to a deeper understanding of God and his relationship to us. While we affirm the basic findings of science, we recognize the gap between our faith and the scientism that too often permeates our community. May we follow Jesus' example of embracing the tension of being fully God and fully human.

The medical ethicist, Lew Bird, once said that "Maturity is the ability to accept ambiguity—and to be able to resolve it in specific situations." As scientists with a Christian faith, maturity may mean accepting that we aren't able to reconcile all of science with our understanding of God's providence in our lives. We need to live in that ambiguity and also strive for clarity, speaking with courage while building common ground.

This "faithful presence" of Christians throughout the scientific community is what we at ASA seek to foster and enable. Researchers in every field stake a claim for Christ wherever they demonstrate integrity and excellence in that discipline. We encourage and support one another as we exercise that faithful presence in the church, in our vocation, and in public policy.

Congratulations, Long-time ASA Members!

Celebrating 30 years of membership

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|------------------------------|----------------------------|
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| Gordon P. Hugenberger | Eugene D. Takalo |
| Duane R. Kauffmann | Peter J. Vibert |
| Randall A. Kok | Timothy P. Wallace |
| | Douglas A. Wiens |

Executive Council Nominees

Gerald Cleaver, physicist, Baylor University, and **Keith Miller**, paleontologist, Kansas State University, are candidates for the 2011–2015 term.

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Accidental Congressman, from p. 1.

his services and advice. Congressman Ford's Chief of Staff phoned him the next day to ask him to choose capable scientists of both parties as an advisory committee. Ford later told Ehlers his committee was the only group that didn't ask for things, but offered help.

Ehlers didn't want to go to Washington, but eventually felt the Lord's leading. Vern realized after he got in Congress how many incidental events and experiences had prepared him to work there. After sometimes calling himself an "Accidental Congressman," he now refers to himself as the "Providential Congressman," given the preparation the Lord provided him.

When he decided to run, there were 30 candidates for the office. He participated in forums nightly for 30 nights. Lawyers promised good laws, businessmen said they would abolish the deficit. Ehlers countered by pointing out that 174 attorneys and 135 business people were already in Congress, but electing him would double the number of scientists.

Talking Past Each Other

Referring to C. P. Snow's book *The Two Cultures*, Ehlers observed that scientific types and others don't talk intelligibly to each other. Lawmakers need to know enough about science to make intelligent policy. When he arrived, there were no scientists on the House Science Committee staff. One member explained, "We deal with science policy, not science," primarily deciding who should get money and why. But X-rays and CAT scans were developed by physicists. Nonscientists can fail to recognize potential future innovations and thus fail to fund beneficial research.

As one example, Ehlers was concerned about invasive species that ruin other species' habitats. After he spoke passionately for a bill to research zebra mussels, one opponent said he saw no point in spending the people's money on "muscles of zebras." Quoting Truman, Ehlers said his greatest frustration was having to teach colleagues things that they should have known. He received many environmental awards, and many call him "Mr. Great Lakes."

Pressures and Prayer

The life of a legislator is not conducive to good family life. The choice is between moving the family to DC or flying home weekends. Ehlers' wife initially

spent some time in DC the first year, but after she had seen virtually every museum, she decided she would return to Michigan, and Vern went home every weekend. The Congressional work week often occupied 80 hours.

Many Christians in Congress meet weekly for prayer. He had opportunities to shape legislation, and also to encourage colleagues to stand for principle in DC's pressurized atmosphere.

His Final Plea

In addition to shaping legislation, a scientist in an influential position can counter the widespread misconception that if you're a scientist, you must be an atheist. For example, in one speech Ehlers said in passing, "That's the way God made it. We have come up with several theories about how God made it." Several students came to him afterward to say that comment had affirmed their faith.

Vern is retiring at age 76, after praying that "God would give me the good sense to quit before I dodder around like some elderly colleagues." Who will replace him? Collectively the scientists in ASA are knowledgeable about many areas. Many areas involve faith, so he exhorted, "All who are scientists or spouses of scientists, you are needed in Congress."

Scientist-Christian, from p. 1.

conscience. Ours is a world of nuclear giants and ethical infants." To make sure ethical considerations received proper emphasis, he devoted 5% of the Human Genome Project (HGP) budget to them. He also insisted that HGP data not be patented, but that it would be published on the Web every 24 hours. That established a precedent, making immediate data release the norm, greatly speeding the progress of medical advances.

Several companies now analyze an individual's genome for \$400 to \$2,500. The laboratory work is quite accurate, but we haven't discovered all the factors related to the heritability of various diseases. So the prediction you get today could need to be revised in a few years, as we learn more fully which genetic markers point to which disease.

Some testers may be profiteering from this technology. For example, a large percentage of ADHD tests "happen" to turn out positive and "require" thousands of dollars of supplements. The FDA is now becoming engaged in regulating this field.

From Theory to Therapy

Many discoveries are really energizing the genetics field. As one example, Beverly had late stage lung cancer, but four years ago she was treated with a new "smart bomb," which to this day appears to have removed all traces of the disease.

The first target of The Cancer Genome Atlas (TCGA) is glioblastoma, the most common and deadly brain cancer. It now turns out to be five different subtypes.

Every disease has some genetic component. For instance, macular degeneration, once thought to result only from aging, is now known to be influenced by variations in complement factor H.

Criticism before Confirmation

His appointment as NIH director was greeted with some criticism, especially from atheist Sam Harris, author of *The End of Faith*. In a *New York Times* op-ed, Harris asked, "Must we really entrust the future of biomedical research in the United States to a man who sincerely believes that a scientific understanding of human nature is impossible?" But no Senator questioned his beliefs; his confirmation was unanimous.

Stem Cell Decisions

Collins was also asked to serve as President Obama's spokesman for expanding the use of embryonic stem cells beyond what the Bush administration had permitted. The Obama administration had a long list of stringent criteria, and 75 stem cell lines have passed the tests and are now usable. Collins considers the embryo a person from conception but finds it hard to argue that it is better to discard a frozen embryo left over from *in vitro* fertilization than to use it for a therapeutic purpose.

Can a Scientist Follow Christ?

For most of history, scientists have been followers of Christ, nurtured and encouraged by their faith. For centuries, scientists have recognized "the unreasonable effectiveness of mathematics." More recently, the biblical concept of "the beginning" seems bolstered by observational evidence of the Big Bang.

The fine-tuning of physical constants in nature also fits the "argument to design" apologetic.

Collins asked Dawkins what indication of an Intelligence behind the universe bothers him most. Dawkins answered that it's the fine tuning that is required for any kind of complexity to have occurred in our universe. Collins' debate

with Dawkins is still on the *Time* website. On a lighter note, Francis has appeared several times on “The Colbert Report,” which attracts 16 million listeners on The Comedy Channel. He played one of his appearances, available at www.colbertnation.com/the-colbert-report-videos/79238/december-07-2006/francis-collins

He is sad that many young people are being told that faith and science are incompatible. He offered advice from St. Augustine:

In matters that are so obscure and far beyond our vision, we find in Holy Scripture, passages which can be interpreted in very different ways without prejudice to the faith we have received. In such cases we should not rush in headlong and so firmly take our stand on one side that, if further progress in the search for truth justly undermines this position, we too fall with it.

Keeping Our Balance

Sara Joan Miles used the experience of her husband’s recuperation from knee surgery to illustrate “From Limping to Walking.” She began with the question posed in 1 Kings 18:21, “How long will you limp between two opinions? If the Lord is God, follow him; but if Baal, then follow him.” Sara added,



Sara Joan Miles

Oh, if our decisions were always so easy! Scripture tells us clearly that the Lord is God, but when it comes to understanding what it means to “follow him,” especially when it comes to policies and practices related to modern scientific and technological matters, the Christian community does a lot of limping—and not just between two opinions. We often find ourselves in numerous camps, wondering how other “Christians” can possibly defend their positions when we are so certain that our stance is the “right” stance.

Her first principle is that God’s creation is good, but not sacred. God is not identified with creation or “nature”—as some religions and our secular culture call it. A worldview that considers creation sacred is loath to touch and investigate it; that would be “the naughty thumb of science,” poking and violating it. Biblically, science is our attempt to understand God’s creative workmanship. But in the

Judeo-Christian tradition, science is not only possible, but required.

Balancing Four Legs

Using the illustration of the four legs of a chair, Sara emphasized the need to balance four factors: valuing the individual, valuing benevolence, valuing non-malevolence, and valuing justice.

She illustrated her point by discussing the pros and cons of using DDT. It is very effective in killing mosquitoes and thus reducing human deaths caused by malaria, a desirable short-term result that stresses benevolence. But in humans, it is an early developmental and reproductive toxin. It is correlated with low sperm count in men, certain forms of cancer, and diabetes. The “leg” of justice requires that we not favor the present generation to the detriment of future generations.

A four-legged chair often wobbles, because its legs are not equal lengths. We make choices, and we make certain legs longer than others, because of self-interested bias. We are too prone to construct our chairs individually, and to seek out others who have constructed similar chairs and thus reinforce our biases. Making decisions on our own, or with people who think only like us, is not good.

Nuancing the Answers

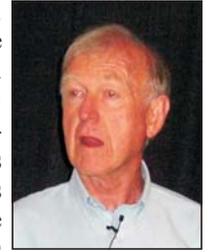
Sara concludes, “We’ll have to understand that our issues are way too complex for easy ‘black or white,’ ‘right or wrong’ conclusions.” Our corporate discernment may take more time than coming up with an answer by ourselves. We may discover that a decision at one point in time was wrong, in light of new knowledge and understanding. But this approach is the only way that we can progress toward walking instead of limping. “Moreover, it is only when we can walk with confidence that we can truly be moral leaders in these fields that God has called us to be.”

Renewable Energy

Stanley Bull is Associate Director Emeritus of the National Renewable Energy Laboratory in Golden, Colorado. His Saturday plenary addressed “Renewable Energy: A Walk through Time and into the Future.” He pointed out that for many centuries, humans used sunlight, water, and wind very efficiently. More recently, the high-energy-density form known as fossil fuels became popular. While the

benefits have been enormous, the environmental consequences have also become enormous.

The energy enterprise is monstrously large, so trying to change it is a major challenge. Worldwide, 1.8–2 billion people don’t have electricity. We lose roughly 2/3 of our energy with inefficiency. Americans are behind Europeans in developing wave power. Germany has the most solar, but Stan has been there several times and has never seen the sun shine.



Stanley Bull

Where to Invest?

Solar and wind have no fuel cost but usually require substantial capital investment. The US uses 1,000 gigawatts of power. Solar could provide 8 times that amount at 6 to 9 cents per kilowatt hour. Typical wind turbines are 2.5 megawatts, and they are moving upward. The blades on some units are the size of a 747. A Smart Grid attempts to integrate various sources into a unified network.

Biomass is another useful approach. The first generation of it is ethanol. Follow-on generations could include algae and green diesel.

He pointed out that even minimal investments can produce substantial savings. During the Q&A time, someone asked, “If you had \$5,000 to spend, what would you spend it on?” Bull answered, “a caulking gun and high-efficiency appliances.”

Evangelicals & Science: Overcoming Our Past

Richard Cizik served the National Association of Evangelicals (NAE) for 28 years as Vice President of Governmental Affairs. In that capacity, he established NAE’s positions on policies and represented them to the various branches of government. Earlier this year, he co-founded the New Evangelical Partnership for the Common Good.

When Cizik went to Oxford several years ago, he said not to expect him to sign any statement or become a spokesman for climate change. But Sir John Houghton and others convinced him that, although scientists disagree somewhat about the magnitude, climate change is really happening. Earth’s temperature is rising faster than ever in history.

Reasons for Resistance

Cizik's appearance at the ASA was shortly after his return from the Aspen Environmental Forum. That group advocates a shift in thinking. Some evangelicals are unconvinced by scientific data because of a suspicion of science. A fairly common reaction is that many scientists espouse evolution as a substitute for God; thus, "Evolutionists are saying climate change, so we reject it."



Richard Cizik

The "This World Is Not My Home" mentality implies that the purpose of being a Christian is just to go to heaven when we die. One Christian radio network claims to know the date the world will end.

Vision v. Hallucination

Rich said the church needs a vision and a strategy to deal with human rights, global warming issues, and poverty; "A vision without a strategy is a hallucination." The greatest problems are pride, apathy, and greed. Part of the solution includes simple things; converting to high-efficiency light bulbs could take numerous power plants off line, thus reducing pollution substantially.

He charged, "Some in this town are willing to sacrifice the entire planet for pursuit of their profit." An audience member responded that most physical disasters of climate change will accrue to the poor, "but won't the spiritual disaster accrue to those who refuse to renounce their greed?" Cizik agreed, quoting Rev. 11:18, which says, "I will destroy them who destroy the earth."

Cizik recommends his organization's website, www.newevangelicalpartnership.org, and www.thechicagocouncil.org.

Seeking Other Earths: Exoplanets and the Significance of Life

Jennifer Wiseman began with a quotation from John Calvin, "For astronomy is not only pleasant, but also very useful to be known: it cannot be denied that this art unfolds the admirable wisdom of God."

She began with an overview of the universe. Our sun is a star, Earth is a planet in this one star system, there are billions of stars in our galaxy, and there are old stars and "baby" stars in gas clouds (nebulae). We now know there are actually hundreds of billions of other

galaxies. An exoplanet is a planet outside our solar system.

She then recounted some of the recent excitement of the Hubble Space Telescope, sharing the thrill of last year's Space Shuttle servicing mission, and then showing some spectacular images from the repaired and new instruments installed on the observatory. (An IMAX movie called Hubble 3-D was released recently, covering the servicing of Hubble as well as dramatic presentations of its scientific discoveries. Additional information and images can be found at www.hubblesite.org)

Where Exoplanets Fit In

Our Milky Way galaxy has 100 to 200 billion stars, and our technology has improved to being able to find and study them. Over 400 exoplanets have recently been detected, mostly indirectly—by looking for tugging motions on a star (Doppler shifting, astrometric wobbling), and by looking for starlight dimming as an exoplanet passes between its sun and the device that is observing it. Imaging exoplanets directly is extremely difficult, because stars are a billion times brighter than planets. So looking for a planet is like looking for a firefly around a lighthouse. Nevertheless, improvements in technology are allowing the first crude images of extrasolar planets.

Most planets that we've detected have been much larger than Earth or in orbits very different from that of Earth, due to the limits on our technical observing capabilities. But that technology is improving rapidly, and it is now completely expected that we will be able to discern how common earth-like planets are and even detect some within the near-term. This is a profound jump from what had been science fiction to the very real situation of knowing whether other star systems might be habitable, or even inhabited, by life we could recognize. Astrobiologists are already studying the atmospheric "markers" that could tell us if an alien planet can support life, or is, in fact, already hosting life, such as simple microbes.

Are Humans Significant?

Considering the vastness of the universe and the possibilities of life elsewhere brings profound questions about the significance and uniqueness of life on Earth, including human life. Not being central can be interpreted as a loss of significance, if based on "geographic"

position. Our solar system is certainly not in any central location in the galaxy, and our galaxy is in no absolute center of the universe. We can feel insignificant, just as the Psalmist prayerfully noted,



Jennifer Wiseman

When I consider your heavens,
the work of your fingers,
the moon and the stars,
which you have set in place,
what are mere mortals that you are
mindful of them,
human beings that you care for them?
(Psalm 8, TNIV)

Indeed, even the devoutly religious scientist-scholar Blaise Pascal said, "What is man in nature? Nothing in relation to the infinite, all in relation to nothing, a mean between nothing and everything." But significance can be measured in other ways, such as the profound significance of advanced life (us) being able to contemplate its own existence and purpose. Jennifer observed, "Biblically we are significant, because of God's choice." Psalm 8 elaborates that idea, continuing with this astonished exultation, "You have made them a little lower than the heavenly beings and crowned them with glory and honor."

Since the Bible is virtually silent on the presence of life elsewhere, one could interpret the finding of plentiful life in the universe as a sign of God's marvelous bounty. Alternatively, one could interpret an apparent uniqueness of life on Earth also as God's plan.

However, an additional question arises for Christians: If there are sentient beings on an exoplanet somewhere, would this alien life experience the presence and redemption of God "in person," as was done on Earth through Jesus Christ? We know biblically that there is one God responsible for everything, and one Lord and Savior in Christ, but how Christ's redemption operates for the entire universe is a subject of much interesting theological contemplation.

What Does It Mean to Be Human?

Rick Potts is the curator of the David H. Koch Hall of Human Origins at the National Museum of Natural History of the Smithsonian Institution. He interrupted his research in the Rift Valley of Kenya to give a private tour of this exhibit on Thursday evening, and to give a presen-

tation titled “Challenges to Understanding Human Evolution in a Religious Context” on Sunday evening.

Potts lamented that much of the interface on human origins has been shaped by people averse to religion. It needs to be led by those who have spent years studying both sides, making the ASA ideal for that role. He said his background is firmly in Christian teaching, “a Protestant with the emphasis on ‘protest.’” He discovered doubt was not an enemy of faith, but essential for deepening it. He sees the value of reconciling what others perceive as conflicts.



Rick Potts

Characteristics of Humanity

Some qualities of being human that he presented were bipedalism, small canine teeth, and a large brain that is only 2% of our body weight but that consumes 60% of our fuel. This brain can read the minds of others, appreciate humor, offer compassion, and is good at deception. It allows us to imagine, understand symbolism as in music, art, or words. We can live everywhere, making fire, tools, and clothes. We contemplate our origins, share our food, and each of us is an ecosystem of microbes. Humans evolved over millions of years in response to a changing world. Fishing, agriculture, and domesticated animals all helped our survival. Some challenges posed by human evolution are extinction of species, common ancestry (we’re all connected), natural selection (is it a material process or divine?), survivability and adaptability, and a shared sense of awe.

Rick stated that some people disagree with the Human Origins exhibit thesis, and he has organized a support group, the Broader Social Impacts Committee (BSIC) which includes a variety of religious people including **Randy Isaac** and **Jim Miller**. On Sept. 10, there will be a special tour for clergy and on March 27, 2011, there will be a Public Forum of Science and Faith. His main goal with the exhibit is to inspire inquiry and further the public’s understanding of science.

Audio of most presentations will soon be posted on the ASA website, www.asa3.org. CD and MP3 download (and DVD for plenary sessions only) are available from Florian AudioVisual at www.florianaudiovisual.com/ashop/asa.php?cat=115.

PARALLEL SESSIONS

Up to four sessions were held simultaneously. Limited space allows us to give a brief report of the presentations; however, audio of most of them will soon be available on our website.

Living as a Christian in the Workplace

Princeton physicist **Robert Kaita** dealt with the common impression that a professional in a secular institution encounters constant hostility toward his Christian faith, while a professional at a Christian institution has it easy. He believes that in either venue, the pressure to succeed could be a greater challenge to a life of faith than any questions of its intellectual credibility.

Policy Issues

Several presenters provided information about policy matters. Because of the detail and complexity, it’s difficult to summarize them in the space available here. Therefore, we are listing the topics and speakers and suggest that you listen to their presentations on-line.

On “Federal Agency Policy”

• **Susan Daniels** of the National Institutes of Health provided “An Update on Federal Policy for Autism Spectrum Disorder Research.” The “autism spectrum” includes people with diagnoses such as severe “classic” autism, pervasive developmental disorder not otherwise specified (PDD-NOS), and Asperger’s syndrome.

• More than a billion people suffer from chronic hunger. **Ann Marie Thro** of the US Department of Agriculture presented “Update on the Federal Global Hunger and Food Security Initiative.”

• **Ward Sanford** of the US Geological Survey discussed “Deep Drilling of the Chesapeake Bay Impact Crater—Finding Order in the Chaos.”

On “Public Policy”

• Baylor prof **William Jordan** pointed out that engineers often ignore public policy issues, serve as consultants, or advocate one side. He told of personal experiences in “Public Policy from the Inside: Direct Involvement.”

• As president of the Canadian Association of Physicists, **Robert Mann** recounted his opportunities as a scientist and Christian in dealing with the relationship between science, public policy, and his own faith.

On “Space Policy”

• Retired NASA scientist **David Lackrone** asked: “The Human Impulse to Explore: Is There a Spiritual Component?” He answered yes, “... the exploration of the universe, the search for basic understanding, is, at least in part, a spiritual quest that has significant religious implications.”

• Whitworth Univ. physicist **Kamesh Sankaran** noted that decisions such as



Kamesh Sankaran

which programs to pursue and fund involve more than pragmatism and economics. In “Examining the Metaphysical and Ideological Views in Space Policy Debates,” he analyzed the assumptions underlying such decisions.

• Johns Hopkins medical researcher **Mark Shelhamer** presented “Our Place in God’s Universe.” While marveling at discoveries like the accelerating expansion of the universe, he stressed that the greatest thing we’ve learned from space exploration is a deepened appreciation of “the ways in which God manifests himself.”

• **Steven Ball** spoke on “The Origin of the Moon and the Origin of Humanity: An Analogy.” Prior to the Apollo missions, scientists had disputed whether the moon was made of the same material as Earth or by something “extraterrestrial.” Lunar rocks from Apollo seem to indicate a combination of both. Ball reasons that the origin of man may likewise involve both natural and supernatural components.

Science Education and Law

• After attending parts of the *Kitzmiller v. Dover* trial in Pennsylvania, Messiah College historian of science **Ted Davis** presented “Intelligent Design on Trial.” In an even-handed fashion, he covered cultural and philosophical aspects, including ID’s challenge to naturalism and its claim to be a scientific alternative to Darwinian evolution. After discussing the movement’s political and educational goals, he concluded with observations about evolution, public education, and the limits of science.

• Responding to Ted was Casey Luskin, who has an MS in earth sciences and a law degree, both from UCSD, and has done geological research at Scripps Institution for Oceanography. As Program Officer in Public Policy & Legal Affairs at Discovery Institute, he advocates that science classes present scientific strengths and weaknesses of evolution—teaching more about it, not

less. As benefits of “teaching the controversy,” it teaches analytical thinking, increases student interest in science, and trains true scientists, open-minded to all facts instead of being restricted to one paradigm.

• Samuel Chen, a graduate student in the J. M. Dawson Institute of Church-State Studies at Baylor, presented “Evolving beyond Lemon: The Use of the Lemon Test in Origin-of-Life Case Law.” He analyzed the legal precedents for teaching origin-of-life science and provided insights for crafting public policy on science-faith issues.

History of Science

• For half a century, the concept of complementarity has had a prominent place in the ASA and its British counterpart, Christians in Science. Baylor professor **Christopher Rios** reviewed the work of Donald MacKay and **Richard Bube** and evaluated the future usefulness of this classic concept.

• **Jason Rampelt** posited that one’s theology can influence one’s science. He bolstered his idea by comparing the research emphases of two noted neuroscientists: Australian Roman Catholic and Nobel laureate John C. Eccles focused on the function of neuron synapses, whereas British Presbyterian Donald MacKay dealt with the psychology of perception in the visual system.

• Messiah College historian of science **Ted Davis** examined four interpretations of the alleged “warfare” between science and Christianity, as applied to understandings of evolution. He concluded that complementarity “looks more like genuine dialogue than any of the other patterns.”

• **Denis Lamoureux** took issue with Richard Dawkins’ statement, “Darwin made it possible to be an intellectually fulfilled atheist.” Quoting statements from Darwin and others, Denis contended, “Darwin made it possible to be an intellectually fulfilled theist.”

Systems Biology

• Three Canadians shared state-of-the-art information and perspective. **Harry Cook** presented “Cellular Complexity: The Cytoplasm Strikes Back.” After decades of being relatively ignored by some geneticists, an understanding of cytoplasm has become necessary in order to comprehend biotechnology. A holistic view of the cell includes both nucleus and cytoplasm. Recognizing this complexity has led to important discussions of systems biology and of emergence in the biological realm. (Emergence is

defined as the way complex systems and patterns arise out of a multiplicity of relatively simple interactions.)

• **Hank Bestman** asked “Post-Genomic Biology: From Molecular to Systems?” Although traditional molecular biology still dominates systems biology, he sees merit in further exploration of the theoretic stream that pays more attention to control theory, network topology, and mathematical modeling. He asks whether a detailed knowledge of molecular components and their relationships is sufficient to understand the complexity of organisms.

• **Jordyn Brandsma** spoke on “Systems Biology and the Definition of Emergence.” Some systems biologists have made the extreme claim that mathematics can account for all emergence. Brandsma advanced the idea that computer simulation (*in silico* models) will increase the predictive power for understanding biological systems, and certain aspects of the theories of emergence may be increasingly difficult to maintain.



Chong-Mon Kyung

Appropriate Technology

Several Korean scientists and engineers established the Christian Forum in Science and Engineering (CFSE) in 2005, using the ASA as its model. Concerned about Korean society’s tendency to devote “religious” times to church activities and to restrict “professional” resources to the workplace, the organization attempts to integrate the two. Implementing this goal, the group has developed a small solar-panel project in a Cambodian church and an efficient, low-pollution heating system in Mongolia. In 2009, CFSE launched Sharing and Technology, Inc., a nonprofit organization to expand the usage of appropriate technology internationally, and to involve young people more extensively.

Health and Medicine

• After graduating with a BS in biology from Messiah College, **Elizabeth Chmielewski** went with the Mennonite

Central Committee to India from 2007–2009. She taught English to nurses and developed a one-day HIV/AIDS awareness training for church members, helping the Mennonite Christian Service Fellowship of India to serve the community. Her title was “A Biologist Serving in India.”

• **Mark Strand**, who has an MS in cell and developmental biology from the U. of Minnesota, dealt with the role alcohol consumption has on influencing liver and pancreatic diseases and upper digestive cancer in people in Russia, China, and India. His talk was “Global Alcohol Consumption Patterns: Disease and Public Policy.” Mark has served in mission in China and this year will teach at North Dakota State U. in Fargo.

• **Jay Bernheisel**, Union U., Jackson, TN, discussed moral and ethical considerations for liver transplantation for people with Primary Sclerosing Cholangitis which leads to cirrhosis. Patients must make a difficult decision: To go with a liver transplant, to wait for an alternative treatment, or to accept an animal organ. The scarcity of available livers brings up ethical, theological, and social policy questions as to when organs can be removed and who gets them.

• **Jimmy Lin**, who is working on three degrees at Johns Hopkins and one at Reformed Theological Seminary, discussed “An Introduction to a Systematic Theology of Medicine.” What are the ethics involved in biomedical research and patient care? He touched on abortion, stem cell research, euthanasia, and disability and suffering.

• **Elisha Injeti** of Cedarville U. in Ohio, spoke on “Immature Beta-Adrenergic Overactivity Can Cause Rage Behavior in Children.” He reported on research that showed treating children exhibiting rage behavior with beta-adrenergic receptor blocker propranolol can greatly reduce, if not eliminate, the behavior over time. This treatment can decrease chronic use of psychopharmacological agents and is a step toward promoting judicious use of medications, especially among children.

• **Heather Prior** and **Heather Looy** of The Kings University College in Edmonton, Alberta, discussed “Faith and Fertility: Christians Making Personal Decisions about Reproductive Technology.” They dealt with what help is available to the ordinary person, how people work through emotional problems, how couples deal with not being able to conceive, and what kind of support groups are available. What role does a couple’s faith

play in deciding to use assisted reproductive technologies? Preliminary findings suggest that they are either unaware of, or find irrelevant position statements of their communities of faith. They hope their research will help academics, bioethicists, denominations and pastors provide needed support for these couples.

Climate Change and Environmental Policy

• Concordia University Wisconsin biologist **Mary Korte** discussed “Faith and Science in Environmental Policy-Making.” While environmental policy is often discussed, it is not clear what specific actions should be taken to establish these policies. Her premise was that environmental policies should integrate faith with science, which is why Christians in science are so important. Besides evangelism, Christians should lead in making environment decisions as stewards over God’s creation.

• “On the Nature of Obedience to Biblical Commands Regarding Creation-Care” was the topic of **Johnny Lin**, assoc. prof. of physics, North Park U., Chicago. Though much compelling work has been done regarding the importance of creation care to God and his church, comparatively little work has dealt with how to translate those commands into obedience. For the most controversial environmental issues, obedience to Scripture requires consideration of more than just the command itself. It requires considering the importance, goals, and practice of that command. In turn, such “considered obedience” requires analyzing one’s assumptions regarding nature, ethics, science, and society. The seeming simplicity behind the mandate to care for creation has within it pitfalls and snares that can harm creation, and lead to a misguided conviction of biblical warrant for a given policy.

• **Jim Ball**’s topic was “Climate and Energy Policy Today and How Christians Can Be Sustained for the Long Haul.”



Samuel Chen, Ted Davis, George Murphy

He provided information on the status of energy and climate legislation, aiming to reduce carbon dioxide by 2020. Caring for Earth is a spiritual and moral marathon, and we haven’t started the race. Climate-friendly choices reducing global warming are ultimately about love, grace, faithfulness, freedom, spiritual beauty and glory. His book on this subject titled *Global Warming and the Risen Lord: Christian Discipleship and Climate Change* will be coming out soon. See www.christiansandclimate.org and www.creationcare.org

• Kansas State U. paleontologist **Keith Miller** presented “The Nature of Science and the Public Debate over Anthropogenic Global Warming.” He maintains that there are many misconceptions about science, how it works and how data are interpreted. The public’s conclusions on subjects such as evolution and climate change are often not based on valid science. Many reject scientific consensus and have trouble dealing with unresolved questions. The public wants proof but certainty is often impossible.

• **David Campbell**, U. of Alabama, dealt with “Biogeography and Environmental Stewardship.” Since the universe is God’s creation, Christians have a solid reason for environmental stewardship. We need to determine specific needs and decide how to handle them. David discussed freshwater habitats which need conservation because of their diversity and the high human impact on them. David has done research on freshwater mollusks and notes the need for clearer data in biogeography. The current approach by the US government can fail to protect key habitats and recognize critical regional centers of diversity.

• **Jennifer Hellmann** of Messiah College spoke on “Evaluating Macroinvertebrate Communities at the Nexus of Limestone and Freestone Streams.” She has researched the Yellow Breeches, a tributary



Benjamin Lee, Larry Linenschmidt, Dan Heinze

of the Susquehanna River. The character of the stream changes as limestone streams join it, altering the bedrock and water source and affecting macroinvertebrate communities. It is important to determine the factors which impact these changes and to determine what conservation measures should be implemented without changing the overall ecosystem.

Energy

• **Kenell Touryan** spoke on “A Look at Emerging Global Markets in Renewable Energy and Energy Efficiency.” Christians should take responsibility to lead the world in the proper use of the limited energy resources available on Earth. We depend on limited fossil resources and have used them excessively and we should be concerned about this. The IEA (International Energy Agency) gathers statistics, provides policies and market analysis, and informs us how to best meet our objectives in Earth care.

• **Peter Hess**, theologian at the National Center for Science Education in Oakland, CA, spoke on “Scientific, Ethical, and Policy Aspects of Affordable Oil.” Oil has become the lifeblood of humanity, making possible transportation, education, medicine, and food production, and our civilization takes it for granted. The US economy consumes approximately 10,000 gallons of oil per second. Our population is growing, but oil production is down from its 1970 peak. We need to encourage population decline by voluntary, positive means rather than by starvation, war, infection, infanticide, etc. Most Americans have a long daily commute. Peter suggests a transition to synthetic fuels, beginning with gas and coal-to-liquids conversion, followed by synthesizing carbon-neutral liquid fuels and using nuclear reactors.

• **Ruth Douglas Miller** of Kansas State U., discussed “National Policies to Encourage Wind- and Solar-Generated Electricity.” What are the costs of energy from a variety



Ken Touryan, Jack Swarengen, Paul Arveson



Francis Collins met with students and early career scientists.

of sources, what policy efforts are used globally, and what information should the Christian voter have to think about such decisions? Our goal is that 20% of our electricity be generated by renewable sources by 2020.

• **Benjamin Lee's** topic was "Progress in Photovoltaics: Potential for Powering Prosperity?" Solar energy should help us solve our energy needs. We must deal with overconsumption, waste, environmental damage and global inequality.

• **Lynn Billman** spoke on "How Much Might We Get as Taxpayers from the Department of Energy's Funding of Green Technologies." Her agency, the Dept. of Energy's Office of Energy Efficiency and Renewable Energy, takes this seriously. Through computer models, they see how federal spending on these issues of renewable energy technologies impacts the nation's future. She discussed administration goals and the 2011 budget request.

• **Jack Swarengen** spoke on "Carbon-Free Ammonia for Farms." He is involved in a small business called WindToGreen LLC with the objective of installing off-grid solid state ammonia synthesis technology systems which will enable ammonia consumers to become their own suppliers for fertilizer and maybe even diesel fuel. This, among other things, could result in carbon-free liquid fuel replacing petroleum-based fuels.

• **Paul Arveson** discussed "A Global Strategy for Fuel-Free Cooking." He summarized the strategies and techniques being developed to expand the development of

fuel-free cooking. Over 2 billion people in the world depend on primitive wood-burning fires, a leftover from the Stone Age. The benefits of solar cookers remain largely unrecognized.

Science and Technology Ethics

• **George Murphy** discussed "An Ethic of the Cross and Public Policy." He described how we ethically deal with science and technology and public safety issues from a Christian perspective, including end-of-life issues, stem cell research, environmental protection, and technological war.

• **James Peterson's** presentation was on "Our Changing Nature." He discussed how Christians should deal with and influence change, from our own lives to the whole world.

• **Brian Johnstone's** topic was "The Fact/Value Dichotomy: Does the Philosophy of the Gift Offer a Solution?" He discussed objectivity and subjectivity and religious values, and decisions we make in giving to others. Christian faith can restore love into bioethical reflections and policy making.

• **Nancy Jones** discussed "Restoring Science to Its 'Rightful Place'—Enlightenment or Scientism." She included ideas about how science and technology should be involved in policy themes associated with health, security, environment, prosperity, and quality of life. Many are naive about the nature of science, favoring its ideology rather than its epistemology.

• **David Daniels** discussed "Calculating the Value of a Human Life." What is the value of a human life? Whose life? Do infants, youth, middle-aged and elderly persons have a different life value? Valuable to whom? How someone dies factors into this as well: an accident, terrorist attack, illness, etc. If seat belts cost \$3 million and save ten kids, then each child is worth \$300,000! Many policy decisions are based on the tradeoff between human lives and financial resources, and political considerations make the objective calculation of the value of a human life problematic.

• **Jason Summers'** talk was on "Ethical Implications of Simulation-Based Training for Military Applications." Deployment of forces on training missions has significant economic, environmental, and human costs. There are some ethical challenges, and he considers the issues in terms of the just-war concept of moral equality of combatants and reflects on the

ethical imperatives achieved by simulation-based training.

• **Roman Miller's** topic was "Attachment and Bioethics: An Anabaptist Trans-Disciplinary Perspective." His paper presented three claims: (1) Attachment is a universal ethical thread that holds the fabric of life together; (2) Biological studies evidence somatic bases for attachment, and (3) Anabaptism theologizes Christian community and relationship with God as essential attachments for human flourishing and social peace. Roman says that attachment is a central paradigm in disciplines ranging from biology to theology, that is, from Darwin to Jesus!

• **William Cheshire** dealt with "Cognitive Enhancement Biotechnology, Public Policy, and the Purpose of Human Intelligence." He discussed cognitive performance enhancement pharmaceuticals and the guidelines for their use. Using biotechnology to enhance human intelligence beyond normal cannot fill, although it might enlarge, the emptiness within us. "This infinite abyss," wrote Pascal, "can be filled only with an infinite and immutable object; in other words, by God himself."

• Concerned about the future of stem cell therapy, Wheaton biologist **Rodney Scott** spoke on "Stem Cells-Ethical Dilemmas after the Policies Have Been Written." There are three types: ESC (embryonic stem cell), ASC (Adult Stem Cell), and IPSE (Induced Pluripotent Stem Cell). Are ESCs really needed? IPSEs don't require destruction of embryos. Many Christians oppose the development of ESCs, founded on their destruction of human embryos. Current trends suggest that both ESCs and ASCs will be available and used for certain therapeutic purposes. Those opposed to the development of ESCs will be faced with some morally vexing questions.

• Johns Hopkins grad student **Arvin Gouw** discussed "The Stem Cell Debate: Insights from Theological Anthropology." There are many sides of this subject. If they alleviate suffering, stem cells should be used. If it kills embryos, stem cells are wrong.

Science Education

• **Paula Gosssard** spoke on "Framing the Context: The Necessity of Nature of Science Instruction." She noted that we live in a scientific culture yet few students have a complete understanding of science. She proposes that all colleges should require a course on the history, philosophy, presuppositions, and methodologies of science.

Newsletter Disclaimer

As a newsletter, this publication presents news spanning a spectrum of activities, reports, and publications in order to keep readers abreast of a variety of events and views. Just as newspapers report statements made by people of various viewpoints and opinions without endorsing them, inclusion in this newsletter does not constitute or imply official ASA endorsement.

• **Terry Gray** discussed “Principled Pluralism: A Model for a Just and Religiously Sensitive Educational System and Its Application in Science Education.” Pluralism recognizes that there are religiously rooted worldviews which inform all areas of life, including schools, and he noted the implications of a principled pluralistic approach to science education.

• **Jon Bailey**’s topic was “Einstein’s Relativity and Biblical Theism: A Rhetorical-Pedagogical Synthesis.” In our modern, scientifically dominated world, the influence of moral relativism is felt in subtle as well as tangible ways. He noted the parallels between Einstein’s relativity and that of Newton and Galileo. Einstein’s relativity reflects the beauty, majesty, power and genius of our Sovereign Creator, Redeemer, and Friend.

• **Georgia Arbuckle-Keil**, physical science professor at Rutgers U., discussed “Supporting Women Scientists via the NSF ADVANCE Program.” NSF gave Rutgers support for a program that seeks to increase the participation of women in science and engineering careers. They deal with helping women in leadership development, work-life balance, grant writing, etc. Georgia strives to help women scientists use their talents to the fullest.

• **Philip Chang**, the son of **Soo Y. Chang** from Pohang University of Science and Technology in Korea presented his father’s paper, “A Critique of the Idea of Vertical Integration within a Christian Perspective.” Vertical integration involves problem-based, cooperative learning. It has students in different grades interacting with each other so that students with a better understanding of the subject help those with less understanding. He cited several biblical passages that seem to support the concept.

• **John Staver** of Purdue discussed “Skepticism, Truth as Coherence, and Constructivist Epistemology: Grounds for Resolving the Discord between Science and Religion.” He said both the natural and supernatural worlds require thought. The ties between these disciplines represent a significant chapter in humans’ cultural heritage before and since the Enlightenment. Within a constructivist perspective, believers who hold that religion explains reality would come to understand that God never revealed his truth of nature; rather he revealed his truth in how we are to conduct our lives.

• **Ashley Zauderer** and **Gladys Kober** discussed “High School Curriculum Development: Teaching Astronomy with Scien-



Several Korean scientists and engineers from the Christian Forum in Science and Engineering are shown with **Arië Leegwater** and **Randy Isaac**. **Duane Stevens** also joined the group picture.

tific Rigor and a Christian Worldview.” They are developing such a curriculum, hoping to provide a resource for the growing homeschool community and Christian schools. They hope to prepare students with a strong scientific understanding as well as being able to relate it to Christian perspectives.

• **Thomas Walters**’ topic was “Science and Religion or Science and Theology? And What about Science and History?” He concluded that these disciplines can easily stray into the others’ territories, not always with laudable results, and they can be blinded by political agendas which interfere with their accepted discourses.

• **Benjamin McFarland**’s topic was “The Chemicals Pour Forth Speech: Teaching Origins with a Biogeochemical Narrative.” He maintained that Christians in science must unite astronomy, biology, and chemistry with scriptural stories, and he went into detail as to how this can be done.

Theology

• **Bethany Sollereeder** spoke on “Evolution, the Good Creation, and the Problem of Evil.” Dealing with natural evil, she questioned whether earthquakes, tsunamis, the lion eating the lamb are “good.” Pain and death are necessary in living creatures and are not a result of Adam’s sin. Moral evils such as war and stealing result from choices, but natural evils are independent of choices. Calvin and Barth blamed evil on natural sin, but there was evil before people existed such as predators, disease, venom, and species extinction. Some “evils” bring positive results: earthquakes contribute to the magnetic

field. Understanding that the creation is God’s “very good” world changes the way we think about death. Within Christianity death leads to resurrection. Our hope lies in that.

• **John Munday** is active in public health in China. Speaking on “Scriptural Modes of Creation Revisited,” he referred to Psalm 111; Rom. 5:12, 8:21; Psalm 104, comparing them with known science. Different modes of creation are included in Scripture, including miraculous *ex nihilo*, development of preexisting material, new life and geological changes from historical unfolding, and natural processes. Creation terminology distinctions in Genesis 1 might have been employed to answer early humans’ questions. How God creates as seen from biblical and scientific realms is not always easy to understand.

• **Paul Seely** interprets the 1954 publication of Bernard Ramm’s *The Christian View of Science and Scripture* as a watershed in the science-faith interface. It stimulated one wing of Evangelicalism to favor science at the expense of Scripture and the other wing to ignore or repudiate science in order to stay true to its perception of what the Bible teaches. Twenty-five years after the book’s publication, Ramm said he wished he had paid more attention to the Ancient Near Eastern context of Genesis. Seely picked up on that remark and presented what he considers a “more academically robust, theologically richer” interpretation.

• **Dick Fischer**’s topic was “The Tower of Babel: A Confusing Incident Made Less Confusing.” Dick says in his summary,

“This incident in biblical history has been placed in out-of-order sequence, has been mistranslated, misinterpreted, and misconstrued.” He discussed historical events during biblical times and stated, “A confusion of tongues ensued among the Semite tower-builders, not a change in basic languages as has been the popular interpretation.”

• Biola physics prof. **John Bloom** discussed, “Is There Science in the Bible?” He mentioned Scriptures which reference scientific events such as Gen. 30:37–39, which tries to explain why animals have streaks or spots; Jer. 33:25 and Gen. 8:22, dealing with the stability of physical laws; and Jer. 10:2–3a, dealing with people interpreting signs in the sky. People did not understand genetics and astronomy and so many aspects of modern science, and there were a variety of explanations. Some Christians believe biblical statements reflecting scientific truths unknown at the time of writing suggest divine authorship.

POSTER SESSION

Hank Bestman and **Jordyn Brandsma** presented a poster entitled “Systems Biology: A Sampling of Research Approaches and *in Silico* Tools.” **David Hollman**’s poster was “The Benzene-OH Potential Energy Surface,” and **Anding Shen**’s was “Human Resting CD4+T Cells Co-Cultured with Endothelial Cells Are Permissible for HIV-1 Infection without Signs of Activation.”

PRE-MEETING WORKSHOPS

On Friday, before the Annual Meeting began, two very informative all-day seminars were presented. **Ted Davis**’ class was “A Short History of American Religion and Science,” and **Denis Lamoureux** led the class on “Scripture, Science, and Origins: An Overview.”

FIELD TRIPS

We’ll provide more detail on the field



trips in the next issue. Meanwhile, for a taste of NASA’s Goddard Space Center and the Smithsonian Institution National Museum of Natural History’s

David C. Koch Hall of Human Origins exhibit, visit **Charlie Reece**’s excellent photographic tour at <http://albums.phanfare.com/isolated/PPdcimkg/1/4773011>.



Curator Rick Potts answers questions at the Smithsonian Institution’s David C. Koch Hall of Human Origins exhibit.

With the Lord

Richard B. Barrueto died March 10, 2010, at age 82. He was born in Guatemala City and became a biochemist. His many charitable and philanthropic activities included Latin America Mission, Rotary International, and the Fellowship Foundation. He was chairman of the board of Agros International, committed to breaking the cycle of poverty for rural families in Central America and Mexico by enabling landless communities to achieve land ownership and economic stability.

Welcome, New Members!

June–July 2010

Aay, Henry –Grand Rapids, MI
 Anderson, Kirsten L. –Wichita, KS
 Applegate, Charles S. –Brookfield, WI
 Bak, So Yang –Vancouver, BC, Canada
 Ball, Mary –Jefferson City, TN
 Belvin, Gary D. –Baltimore, MD
 Billman, Timothy E. –Lakewood, CO
 Boys, Diane K. –Tillsonburg, ON, Canada
 Brekke, Erik –Carol Stream, IL
 Byene, Diane A. –Northfield, VT
 Carkner, Gordon –Vancouver, AB, Canada
 Chong, Edwin K. –Fort Collins, CO
 Classen, Aldo R. –Greely, CO
 Cole, Jim –Albany, OR
 Corwin, Luke A. –Batavia, IL
 DeNeefe, Steven J. –Westchester, CA
 Dicken, Alan –Dundas, ON, Canada
 Dik, Bryan J. –Wellington, CO
 Donaldson, Anthony L. –Riverside, CA
 Dunbar, Lee E. –Elkton, VA
 Ensign, Amy A. –Rochester, NY
 Fossett, L Alan –Riverside, CA
 Fox, Cade –Bend, OR
 Furlong, Laurie –Orange City, IA
 Gattis, Tony –Arlington, VA
 Glanzer, Daralynn –Wilkesboro, NC
 Gray, Linsley S. –Downers Grove, IL
 Grosh IV, Thomas B. –Mount Joy, PA
 Gross, Robert E. –Decatur, GA
 Harms, John F. –Grantham, PA
 Hartman, Roger D. –Tulsa, OK
 Henderson, Joseph V. –Wheaton, IL
 Hernandez, Lisa –Riverside, CA
 Heumier, Timothy –Simi Valley, CA
 Hewitt, Clark –Tappahannock, VA
 Higgins, Tim –Clarksville, MD
 Hollman, David –Statham, GA
 Howell, Timothy D. –Cornelius, NC
 Jackson, Douglas H. –Rochester, NY
 James, Dennis R. –Lindenhurst, IL
 Jewett, Erin –Maple Grove, MN
 Keller, Wally A. –Newcastle, CA
 Kok, John H. –Sioux Center, IA
 Koperski, Jeffrey –University Center, MI
 Laird, Jean M. –Montgomery, TX
 Lam, Jonathan D. –Fitchburg, WI
 Larson, Amy S. –Champaign, IL
 Lee, Robert –Jefferson City, TN
 Lin, Jimmy C. –Baltimore, MD
 McMillan, Amanda M. –Franklinton, PA
 Michalka, Joseph R. –Belton, MO
 Moodie, Jessica –Talbot, TN
 Moore, E Maynard –Bethesda, MD
 Nalliah, Ruth E. –Huntington, IN
 Ntam, Moses C. –Auburn, AL
 Pache, Herb –Waterloo, ON, Canada
 Paulson, Kendall R. –Azusa, CA
 Peters, Bethany –Edmonton, AB, Canada
 Pfothenhauer, John M. –Madison, WI
 Phillippy, Douglas C. –Grantham, PA
 Pottinger, Willard K. –Hamilton, ON, Canada
 Price, William O. –Kent, WA
 Prior, Heather M. –Edmonton, AB, Canada
 Pritchard, Molly K. –Pensacola, FL
 Quammen, Diane L. –Mukileto, WA
 Realsen, Jaime M. –Parker, CO
 Redline, Rebecca A. –Breinigsville, PA
 Reynolds, Julie –Columbus, OH
 Reynolds, Sarah J. –Lawrence, KS
 Reynolds, Nathaniel D. –Haven, KS
 Rich, Anna E. –Cleveland, TN
 Richardson, Kaylan –Morristown, TN
 Rockwell, David C. –Naperville, IL
 Rudisill, Daniel W. –Akron, PA
 Schmidt, Norman E. –Statesboro, GA
 Sebestyen, Andres –Hamilton, ON, Canada
 Senn, William –McKinney, TX
 Steenwyk, Steven –Grand Rapids, MI
 Stoelk, Kristina –West Linn, OR
 Stortebom, Heather –Fort Collins, CO
 Stull, Malinda A. –Wilmore, KY
 Sutherland, Scot M. –Lancaster, CA
 Sykes, J. Aubrey –Grand Rapids, MI
 Thebeau, Lydia –St Louis, MO
 Timmer, Kevin J. –Sioux Center, IA
 Timmons, Leonard –Duluth, GA
 Tims, Hannah S. –Grantham, PA
 Trotter Wilson, Catherine S. –Acton, MA
 Tsai, Annie Y. –Azusa, CA
 Tsui, Tommy K. –Dundas, ON, Canada
 Turnbull, Thomas –Bristol, TN
 Van Cott, Donna G. –Selma, IN
 Vetter, Philip –Princeton, NJ
 Wagner, James P. –Prior Lake, MN
 Walters, Leisel –Madison, TN
 Ward, David A. –Jackson, TN
 White, Jonathan D. –Tigard, OR
 Wilson, George G. –Sudbury, MA
 Witten, Kyle T. –Melbourne, KY
 Wu, Marcelo –Edmonton, AB, Canada
 Zhou, Ziliang –Riverside, CA
 Zwier, Paul J. –Grand Rapids, MI

Coming Events

In order to provide more current information, we have transferred the Coming Events feature to the ASA website, www.asa3.org. Most items listed there contain links providing more details. Click any word or phrase that is underscored, and it will direct you to additional information about that event.

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In This Issue

A Sense of Destiny.....	1
2011 Annual Meeting.....	1
"An Accidental Congressman".....	1
A Scientist-Christian in the DC Fishbowl.....	1
The Executive Director's Corner.....	2
Congratulations, Long-time ASA Members!.....	2
Executive Council Nominees.....	2
Keeping Our Balance.....	4
Renewable Energy.....	4
Evangelicals & Science: Overcoming Our Past.....	4
Seeking Other Earths: Exoplanets and the Significance of Life.....	5
What Does It Mean to Be Human?.....	5
Parallel Sessions.....	6
Poster Session.....	11
Pre-meeting Workshops.....	11
Field Trips.....	11
With the Lord.....	11
Welcome, New Members! June–July 2010.....	11
Annual Meeting Worship Service.....	12
Question to Attendees.....	12

**Annual Meeting
 Worship Service**

The Affirmation of Faith in the Annual Meeting worship service was taken from John Calvin’s commentary on Psalm 19:1, “The heavens declare the glory of God; the skies proclaim the work of his hands.”

When we behold the heavens, we cannot but be elevated by the contemplation of them, to Him who is their great Creator; and the beautiful arrangement and wonderful variety which distinguish the courses and station of the heavenly bodies, together with the beauty and splendor which are manifest in them, cannot but furnish us with an evident proof of his providence. Scripture, indeed, makes known to us the time and manner of the creation; but the heavens themselves, although God should say nothing on the subject, proclaim loudly and distinctly enough that they have been fashioned by his hands: and this of itself abundantly suffices to bear testimony to men of his glory. As soon as we acknowledge God to be the supreme Architect, who has

erected the beautiful fabric of the universe, our minds must necessarily be ravished with wonder at his infinite goodness, wisdom, and power. To God be the glory.

Question to Attendees

Margaret Towne asked some attendees what impressed them most about their experience. They responded:

- The number of people from so many states as well as so many countries really impressed me. There was also such variety in their areas of science.
- I just graduated from college, and I am motivated to go on for an advanced degree after being around all the smart young people. This has changed my life, and I think it’s God at work.
- I really enjoyed the trip to the Smithsonian to see the history of humans. The many skulls which showed the evolving brain were amazing.
- I am an Early Career Scientist and being able to meet with **Francis Collins** on Saturday night was a high of my life.

- I liked the lectures on global warming.
- **Sara Miles’** discussion on DDT really informed me.
- The insights in the lectures on renewable energy by **Peter Hess** and **Stan Bull**, if applied, could really change the Earth for the better.
- **Francis Collins** singing with his guitar was most unique.
- I didn’t know there were so many scholars in the Christian faith. This was so eye-opening. It was my first Annual Meeting, and I am definitely going to the next one.
- The trip to the Goddard Space Center was amazing. We saw a lot of things, including some museum panels and also a spherical film showing the Earth as well as our own galaxy. I will definitely pay attention to the news in this area in the future.
- The all day class by **Ted Davis** was most enlightening.
- This was my first Annual Meeting, and it exceeded my expectations. Everyone was so friendly and I had a number of thought-provoking conversations.