Affective Computing: Toward Computers That Recognize and Respond to Human Behavior

The next time you yell at your computer, it just might apologize for its behavior. Researchers at MIT are developing computers, and other devices, that will gauge their users’ feelings, and respond to them.

Rosalind Picard, Director of the Affective Computing Research Group at MIT, gave an American Association for the Advancement of Science DoSER (Dialogue on Science Ethics and Religion) lecture last spring in Washington, DC. These new “affective” computers will help us understand how our bodies display stress, and how social interaction and empathy, even from a non-thinking, non-feeling machine, can help to relieve stress. These machines have been programmed to detect human emotions through a series of emotion “cues” such as facial movements, voice tones, skin conductivity, posture and gestures. By reading these cues, the machines can then respond in a way that imitates human interaction.

Research has shown that any empathetic response to human emotion can still have an affect on a user’s mood. One benefit of the affective computers is their ability to adjust their behavior in response to user emotion. A computer could detect that a user is frustrated, apologize for being the source of the frustration, and then adjust its operations in response to the problem.

Examining the Ethics of Embryonic Cell Research: Scientist Urges Public Dialogue

Dr. Mike Mobley, Associate Director of the Arizona Biodesign Institute at Arizona State U. recently gave a presentation as part of the Canyon Institute for Advanced Studies’ public lecture series at Grand Canyon U. His topic was “Finding a Footing on a Slippery Slope: An Examination of the Ethics of Embryo Cell Research,” and his purpose was to encourage the public to enter into the unfolding dialogue about humankind’s future by becoming well informed about what is at stake. Mobley challenged his audience by resounding the words of Leon Kass, MD, Chairman of the President’s Council on Bioethics, “For anyone who cares about preserving our humanity, the time has come to pay attention.”

Although Mobley, a scientist of 30 years, expressed his excitement about recent scientific advances and the pace of innovation, his lecture focused on his concern that the rapid pace of advances in biotechnology is exceeding humanity’s development of wisdom on how best to apply the new knowledge. He explained:

Embryo cell research has now become the focal point of contemporary bioethical debates on the moral status of man and the nature of human dignity.

Continued on p. 3, Ethics of ECR

Dr. Catherine Verfaillie, director of the Stem Cell Institute at the U. of Minnesota, Minneapolis, illustrates the versatility of stem cells:

“It was as though they had stumbled upon a packet of magic seeds that, depending on where they are planted, could grow into carrots, broccoli, corn, or cabbage.”
Lord willing, by the time you receive this letter, my wife and I will be established in Elizabeth City, NC, but probably still unpacking boxes. Don’t you just love to move? We enjoyed living in Ipswich, MA, as it is a beautiful place with ocean all around but in retirement the high cost of living there is difficult. We left many friends behind but our family members are scattered elsewhere. So we will start new in North Carolina and we appreciate your prayers as we adjust. It will be different to celebrate Thanksgiving and Christmas in an unfamiliar locale.

We have two new, part-time staff members. Jonathan Chechile from Vermont is a new student at Gordon-Conwell Seminary. This gregarious young man is our Membership Manager and general helper. Diane Kemmer, a mother of four children living in Beverly, MA, is our new Financial Manager. We are so happy to have them. Diane also teaches two days a week. We are thankful for Robyn Leet, a graduate of Gordon C., who has helped us through our transition period by setting up accounting procedures.

Back in 1979, while I was roaming around in Kenya with my family, several people joined the ASA and now they have been members for twenty-five years. It is a list of 26 people. They include an ASA Council member, a newsletter editor and many who have attended national meetings, given papers and made significant financial contributions. My congratulations to those below on the celebration of their 25th anniversary with ASA: Paul A. Adams, Harold G. Ashcraft, Charles F. Austerberry, Gregory S. Bennett, David L. Bourell, Neil D. Broom, John A. Brushaber, David E. Elliott, W. Paul Fayter, David E. Fisher, Marilyne S. Flora, Keith A. Griffin, John M. Hill, Douglas E. Johnson, Ian S. Johnston, Rodney L. Jung, Sam A. McLauchlan, Thomas Pittman, David L. Ragonesi, David E. Roll, Craig Rottman, Henry F. Schaefer III, John W. Stahl, Robert A. Styer, Frank H. Wilbur and Dorothy W. Woodside. Once again we entreat our celebrants to send remembrances to the newsletter editors.

Sometime earlier in this year I left reporting the results of the bioethical issues survey that I did at Congress 2004 in Boston. Let me complete the report before the year ends. Congress is attended by thousands of Christians from MA and surrounding states. We probably did not get a true cross section since many refused for various reasons to fill out the survey and some just found it too hard to make decisions. The third area contained questions in matters of death. They were asked three statements which were preceded by “With which of these procedures would you agree?” (1) Turning off life support machines on a relative diagnosed as brain dead (28 said yes, 12 said no, and five were undecided); (2) Allowing a relative to forgo life support through their signed DNR order (26 said yes, 12 said no, and seven were undecided—one question might be whether they could actually stop it?); and (3) Allowing a physician to assist in the death of a relative in their terminal stage (three said yes, 40 said no and two were undecided).

The next area dealt with genetics and what their opinions of three procedures might be. (1) Test a couple for possible deleterious gene combinations before marriage (13 said yes, 25 said no, and seven were undecided); (2) Test newborn babies for genes that might cause future problems (18 said yes, 18 said no, and nine were undecided); and (3) Try a procedure to modify a gene that causes a serious disease or deformity (18 said yes, 19 said no, and eight were undecided).

The final three questions were general. (1) Should animal experimentation for medical purposes be banned? (Three said yes, 38 said no, and four were undecided); (2) Should human kidneys be sold on the open market for needed transplants? (Five said yes, 34 said no, and six were undecided); and (3) Can human cloning be considered under any circumstances? (Three said yes, 41 said no, and one was undecided). What would you have decided on these statements? There were people on both sides of every issue though some issues seem fairly one-sided. For most, there are no simple answers.

Thanks to all of you who helped us out during the early fall with our cash flow problem. This was the first time in my ten years here that we came up so short but the early fall is often a tight time for us. I am counting on each of you, if possible, to give an additional end-of-year donation. We need funds for the first half of 2005 when we receive fewer donations and dues. We want to support our office staff, especially with the extra work they have to do in my absence. Be in prayer for the ASA Council and their decisions as they convene at ECHO in North Fort Myers, FL, for our semi-annual meeting Dec. 10–12. Thanks to our president Martin Price we can experience and enjoy Florida in December.

Picard explained:

We have been working with other researchers to prove that the way people default interact with technology follows the way we interact with each other. Many of the skills that are important in human-to-human interaction can carry over to human-computer interaction and have similar effects.

But is this emotional investment in a nonliving, unfeeling object healthy? Paul Root Wolpe of the department of psychiatry at the U. of PA responded:

People see in these technologies a broader symptom of what our relationship is going to be with robots. ... People hold human-to-human interaction sacred, above human-to-animal interaction, and certainly above human-to-technology interaction ... We see human interaction as a more genuine way to evoke our emotions. We are suckers not for realism but for relationships.

Wolpe said that the question that must be answered is whether the simulation of emotion is enough or if mutual interaction is necessary. The popular belief is that for an emotion to be “genuine” it must be felt and responded to. He hypothesized that the feeling the user receives may not be tied to the emotions evoked by the person or object with which he or she is interacting, and that a healthy emotional relationship can be developed with machines.

Scientists are studying this, using brain imaging technology to identify subjective feelings in humans when they interact with affective machines and with other humans. Members of the audience expressed interest in the intercultural applications of the technology. Different gestures or cues have different meanings in different cultures.

For audio recording see: www.aaas.org/spp/dser/seminar/.

✉ Rebecca Booker, Program Assistant, DoSER, AAAS

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**Ethics of ECR**, continued from p. 1.

The debated issue is the creation and destruction of human embryos for research and medical purposes.

Mobley addressed the moral status of the human embryo by affirming that human life begins at conception, that human life is sacred, and that scientists and medical practitioners ought to honor the Hippocratic standard to “do no harm.” He pointed out the complexity of the debate as one extends beyond the argument about the moral status of the embryo to consider recent Presidential policy (2001) that provides federal funding for research on pre-existing embryo stem cell lines from embryos that had already been destroyed. “With the advent of cloning,” explains Mobley, “the ethical dialogue has become even more intense.”

Mobley has served as President of the Aslan Society, an interdenominational fellowship for Christian faculty and staff at ASU. The Arizona Biodesign Institute advances research in the biosciences and biomedicine in Arizona.

✉ Debra Fisher, writer and research associate for the Canyon Institute for Advanced Studies

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**Stem Cell Activity: Conferences, etc.**

- In June the First International Stem Cell Action Conference was held at UC-Berkeley. This conference inaugurated an international grassroots movement of patients, their families and friends, scientists, and others who support stem cell research to find cures. Some of the subjects addressed were: (1) The cutting edge of science: What advances are being made in stem cell research to find cures? (2) The Controversy: How should we address the ethical, religious, and political questions that people have asked about stem cell research? (3) Advocacy: How can we most effectively communicate the value of stem cell research to the public and to our political representatives?

- Another conference was conducted at St. Anne’s College, Oxford, in July, entitled “A Post Human Future.” Its leaders said:

The twenty-first century offers immense possibilities for biotechnological manipulation of the human species. Recent advances promise a bright new world, but at the same time raise crucial ethical and religious questions about what it means to be human, and about the limits to technology.

Topics covered included ethical issues in human genetic engineering, the construction of a secular bioethic, building a consensus in social policy, religious perspectives on bioethics and the attempt to define what is “human.” Presenters were theologians as well as scientists.

- *Time* (May 31, p. 88) discussed “The False Controversy of Stem Cells.” One of the main points in this article by Michael Kinsley was that fertility clinics, with their *in vitro* techniques create many more embryos than babies, and those embryos are destroyed. For some, it is valid to manipulate embryos for the sake of facilitating pregnancy, yet it is not valid to do stem cell research with the goal of curing diseases such as Parkinson’s, Alzheimer’s, juvenile diabetes, and multiple sclerosis, as well as spinal cord injuries.

- At the Democratic National Convention, Ron Reagan said:

I am here tonight to talk about the issue of research into what may be the greatest medical breakthrough in our or in any lifetime: the use of embryonic stem cells ... How can we affirm life if we abandon those whose own lives are so desperately at risk?

- The government recently announced that the National Institutes of Health will create a central repository to help scientists obtain human embryonic stem cells for medical research. The agency also plans to finance three research centers to speed the development of new medical therapies from stem cells.

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Scientists at the National Institute of Dental and Craniofacial Research have used human adult stem cells from extracted molars to grow new tooth buds that have been implanted into animals’ jaws and they develop new teeth. Furthermore, new teeth have been grown in mice from nondental mouse stem cells. Are dentures going to be a thing of the past? Researchers say it will be five or more years before these procedures are available.

All of these technologies raise profound ethical issues. This is a significant area which requires thought, ethics, morality, and asks the questions “What is right? What is wrong?” It is not coincidental that these questions are being considered across the globe. They must be grappled with from all perspectives and the science and faith dialogue is most necessary.

Ron Cole-Turner (Pittsburgh Theological Seminary) and Brent Waters (Garrett Evangelical Theological Seminary) are the co-editors of God and the Embryo: Religious Voices on Cloning and Stem Cell Research (Georgetown University Press, 2003).

**ISCA VI World Congress 2004**

The 6th World Congress of the International Christian Studies Association, convened at Pepperdine U. in Malibu, July 30–Aug. 1, brought nearly forty scholars from far and wide, including a contingent from Korea. They considered the theme “Science and Religion: The Missing Link.” The setting, scope and size of this event were highly conducive to significant dialogue, synergy and synthesis. This event was organized by the well-known scholar, Oskar Gruenwald, editor of the Journal of Interdisciplinary Studies, based in Pasadena.

The Congress was thematically designed to explore novel ways for bridging natural science, the social sciences, humanities and theology, if construed as disciplines, each laden with a limited range of knowledge and characteristic methodology. From this formal perspective, a wider conceptual framework might be envisioned for providing appropriate linkage to transcend diverse disciplinary particularities. In contrast with this “framework” approach, some speakers dealt with the basic issues from an enlightened “internal,” even personal perspective, utilizing sociology, mathematics, hermeneutics and other cultural approaches to identify the key point. The common denominator behind these alternative

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**Early Early Career Scientist Ian Miller**

As usual, there was a very interesting poster session at the annual meeting in Langley.

One of the presentations was given by Kansas State U. engineer and member of the Executive Council of ASA, Ruth Miller, and her 7-yr.-old son, Ian. Their project was to find out whether Christians make different choices with respect of vehicles and gas consumption than the “general population.” The number and types of vehicles in the church parking lot were compared to those in a restaurant lot on a typical weekday evening. They concluded that the members of the particular congregation they researched did not seem to be concerned about gasoline consumption efficiency. The average number of people per vehicle going to church was two, despite many families with lots of children. Carpooling would save money and fuel!

Ruth and Ian gathered information and worked in depth on the computer. He was able to understand how to set up a scientific experiment, form a hypothesis, gather data, and determine results and conclusions. He helped formulate questions. He understood the thesis and had fun doing scientific research which he sees his parents doing all the time. It bridged science with faith in relating caring for the Earth to the data they gathered. What is more, he had the opportunity at the poster session to share the data among fellow Christians who are scientists and be affirmed in his efforts.

This might be something for the parents among us to think about. How can we encourage our children in the field of science, especially as it can relate to our faith? It can be fun and a wonderful bonding experience as well as most contributive!

**Dad Is Busy, Too**

Keith B. Miller, dad of Ian and husband of Ruth and research assistant prof. in the dept. of geology at Kansas State U., has been a leader in organizing a gathering of the Affiliation of Christian Geologists (ACG) at the Geological Society of America meeting in Denver. There will be a reception and discussion on Tues., Nov. 9, 8–10 p.m. in the Marriott Room: Denver V and VI. All are welcome. This is the primary opportunity for ACG members to meet and interact and it often draws new people, particularly graduate students.
approaches sought the “link” or source of integration directly within the human person instead of within any wider interdisciplinary nexus.

Group recognition of these diverse approaches to the quest for the “missing link” gradually instilled a positive and dynamic source of dialectic tension within the group. It dawned on the participants that they were being challenged to stretch beyond familiar frames of thought in order to reconsider the basic issues anew. Searching in this deeper way, however, inevitably requires considerable humility and a sincere willingness for openness. As soon as this World Congress began to radically exemplify its purported theme, albeit in this higher way, the excitement within the group was quite palpable.

As a finale, the keynote speaker, astrophysicist Arnold Benz, nicely demonstrated how it is possible to perform authentically within a particular scientific discipline while bearing the deep message of Christianity; yet without compromising the integrity of either approach. Evidently, these several pursuits are integral aspects of one and the same person, Arnold Benz. Yet if the key connection is traceable to the human person, the entire range of approaches must be carefully considered in searching for the “missing link.”

CSCA Fellow Thaddeus J. Trenn

CALLING ALL ASA/CSCA MEMBERS

We encourage you to inform the newsletter co-editors about lectures, conferences, presentations, seminars, courses, or other involvements which you have in the fields of science and faith. We are pleased to inform the membership of these events.

Our members are interested in your activities! We also welcome your responses to articles in the newsletter or summaries of events you have attended or sponsored which we could include in the newsletter.

Of Interest…

Human-Animal Hybrid?

Britain might become the first country where a human-animal hybrid is made. The government’s legal mandate at present cannot regulate such experiments. While human reproductive cloning is against the law in Britain, there are no laws which prohibit researchers from adding human DNA to cow eggs. This is an example where progress in science outpaces legal parameters which must constantly catch up.

The Chronicle of Higher Education noted on June 7 that in this country, Californians will vote in November whether to provide $3 billion in bonds for research on human embryonic stem cells. Supporters of the ballot measure say it would circumvent the Bush administration’s policy of providing federal funds for only a limited set of stem-cell types.

Knowledge of Evolution?

Researchers from McGill and Indiana U. maintain that the public is still woefully lacking in its understanding of evolution. Not only the masses, but “a considerable proportion of college graduates aren’t familiar with evolutionary principles either.” More can be found at: http://evol.allenpress.com/evolonline/?request=get-abstract&issn=0014-3820&evolume=056&issue=10&page=1891 Readers can find an interesting new website on evolution at: http://evolution.berkeley.edu This was put together by the National Center for Science Education and the U. of California Museum of Paleontology in an attempt to help folks understand evolution.

Faith Gives Health

• Dr. Herbert Benson of Harvard Medical School and author of The Relaxation Response maintains that there is a strong link between faith and health. The stronger the faith, the better the health. Among the positive effects of piety are:
  1. Longer life: A study shows that there is a seven year difference in life expectancy between those who never attend religious services and those who attend more than once a week;
  2. Overall well-being: Epidemiologist Jeff Levin, author of God, Faith, and Health states that older adults who considered themselves religious had fewer health problems than the nonreligious;
  3. Better recovery: A Dartmouth Medical School study found that patients comforted by their faith had three times the chance of being alive six months after open-heart surgery than patients who found no comfort in religion;
  4. Tougther tickers: A study in India, whose subjects were primarily Hindu, found that those who prayed regularly were 70% less likely to have coronary heart disease;
  5. Lower blood pressure: Duke researchers found a protective effect against high blood pressure among men in Georgia who considered religion very important and attended church regularly;
  6. Good mental health: Duke also found that attendance at a house of worship is related to lower rates of depression and anxiety; and
  7. Reduced stress: Benson notes that many studies show that repeating a prayer, word, sound, phrase or movement; disregarding other thoughts; meditation; tai chi; and yoga all provoke a healthful state (Readers Digest, May 2001).

• A recent U. of Michigan study finds that senior citizens should socialize with both family and friends if they want to keep their communication skills intact. Those who were involved in a wide range of social activities, many of them organized, showed less of a cognitive decline. Might we conclude that being active in church groups and boards and attending Bible studies and social activities would contribute to mental health? There are many rewards in serving the Lord!

• Also, the Center for the Study of Health, Religion, and Spirituality at Indiana State U. is studying the impact of meditation on individuals with binge eating disorders. Recent research findings suggest that connecting the body and mind
through meditation may help such folk overcome the disorder (Science and Theology News, May 2004, p. 15).

Another Science and Faith Dialogue
Possibly relating to the above article on technology and sports, it is of interest to report that the president of Biotechnology Industry Organization (BIO) and the general secretary of the National Council of Churches signed an agreement in August saying that the organizations have the same goal: to improve the quality of life for all people. At the BIO conference, they discussed how ethics, morality and religion are part of the scientific process. In recent years, religious leaders and folk from BIO have met to discuss a variety of issues such as cloning, stem-cell research and global health-care equity. Carl Feldbaum, BIO president said:

Eighty percent of Americans describe themselves as religious, and as an organization that relies on the good will of the community to be able to proceed with research, it’s important for us to listen to that. He noted that if religious leaders don’t join such debates about biological science ethics, others certainly will.

See: www.wired.com/news/technology/0,1282,59395,00.html?tw=wn_story_related

Discussion on the ASA ListServ
asa@calvin.edu is a discussion group on matters of interest to ASA members. To subscribe, e-mail: majordomo@calvin.edu with the words “subscribe asa” (no quotes) in the body of the message. There is also a digest form available. In it, several messages come combined in one e-mail message. Messages from the previous 24 hours are sent out at 7:30 a.m. each day. To subscribe, e-mail: majordomo@calvin.edu with the words “subscribe asa-digest” (no quotes) in the body of the message. (Perspectives on Science and Christian Faith 54, no. 4: 263)

ASAer in Print
Associate Member Norman L. Geisler and Frank Turek have written I Don’t Have Enough Faith to Be an Atheist (Wheaton, IL: Crossway Books, 2004). The primary thesis of this provocatively-titled book is that the reasoning that allegedly drives an analytical person to atheism is not nearly as solid as is popularly believed. The authors quote Pascal’s claim that “People almost invariably arrive at their beliefs, not on the basis of proof but on the basis of what they find attractive.” They point to numerous leaps of faith that skeptics make when they start with the assumption that God does not exist and attempt to justify that preconception rationally.

Among topics they cover are the cosmological “argument from design,” miracles, and analysis of the biblical text. One example of the latter involves Harvard law professor Simon Greenleaf, who concluded that the four Gospels “would have been received in evidence in any court of justice, without the slightest hesitation” and who consequently converted to Christianity.

They illustrate their thesis that atheism requires faith, by the hypothesis variously called “multiple universes” or “multiverses.” They quote Paul Davies saying,

Indeed, invoking an infinity of unseen universes to explain the unusual features of the one we do see is just as ad hoc as invoking an unseen Creator. The multiverse theory may be dressed up in scientific language, but in essence it requires the same leap of faith. Geisler and Turek are, respectively, president and vice president of Southern Evangelical Seminary.

Calvin Geologist Davis Young Retires
In 1978, Christian geologists with a Reformed outlook were few, and many Christians suspected that geologists’ findings ran counter to the Bible. After growing up in the home of Westminister Theological Seminary Old Testament prof. Edward J. Young, then earning his Ph.D. from Brown U., and teaching ten years at NYU and UNC-Wilmington, Davis Young was ready to change that attitude. When he joined Clarence Menninga on the Calvin C. faculty, he doubled the geology faculty’s size to two.

Young enjoyed explaining geology to people, but he required students to go beyond reciting lectures back to him. During post-commencement field trips to Colorado, the Adirondacks, the Ozarks, northern Pennsylvania and New Jersey, students learned “real geology” through hands-on exploration of “hard rock.” He was the founding president of the Affiliation of Christian Geologists.

His “explaining” extended far beyond his campus and field trips. He published “Scripture in the Hands of Geologists” in Westminster Theological Journal, plus authored or co-authored five books, including Creation and the Flood (1977), Christianity and the Age of the Earth (1982) and The Biblical Flood (1995). He calls his most recent, Mind over Magma (Princeton U. Press), his “magma opus.” Calvin provost Joel Carpenter hails it as “history of science at its finest, highlighting both technology and social context, the process of scientific discovery and the importance of

Newsletter Disclaimer
This publication is a newsletter. As such, its purpose is to present 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.
people, places, and funding. As the only historical overview of an important scientific field, Dave’s new book will be on professors’ short shelves and grad students’ reading lists for decades to come.

Young concluded his 26 years at Calvin in May, and he and his wife Dottie have relocated to Tucson. He says, “Retirement, Lord willing, will bring a lot more time with Dottie,” plus time for travel, birding, and writing, “mostly about a Christian view of geology.” He is completing a small book on “John Calvin’s View of the Natural World.” He and colleague Ralph Stearley plan an expanded version of *Christianity and the Age of the Earth.*

Young says: “There are lots of other ideas for writing projects tucked away in my brain waiting to be expressed. I’d love to hear from other Tucson area ASAsers,” at dotndave@comcast.net.

In a retirement tribute, provost Car- 

penter stated:

Dave’s years at Calvin have been marked by extraordinary scholarly output and perseverance, meticulous writing and organization, sound departmental academic leadership, dedicated and effective teaching and mentoring of students, tireless promotion of the importance of the earth sciences, a wonderful sense of humor, and a quiet and deep piety. We wish him well in his retirement years.

**We Need Your Help**

Wanted: Selected back issues of the *Journal of American Scientific Affiliation*. The editor wants to put together a complete set of journal issues in order to get them bound as a permanent collection. However, three issues are missing from his collection. If you have any of these issues and wish to either donate or sell them to the editor, your assistance will be appreciated. The missing issues with the identifying Volume:Number are: I:4; 3:3; 31:4. Contact: Dr. Roman J. Miller, PSCF Editor, 4956 Singers Glen Rd., Harrisonburg, VA 22802 (E-mail: millerrj@rca.net)

**Coming Events in North America**


**Nov. 11–14.** Christianity and Human Rights, 4th Annual Lilly Fellows program Natural Research Conference, Samford U., Birmingham, AL.

**Nov. 12.** “Allergies, Inflammation & Parasite Immunity: Studies Using Genetically Engineered Mice,” Speaker: Chris Lantz. Eastern Mennonite U., Harrisonburg, VA. E-mail Roman Miller: millerrj@emu.edu

**Nov. 13–14.** Chicago chapter, Reasons to Believe. Speaker: Hugh Ross. E-mail: bobclapper@yahoo.com

**Nov. 13.** “University Wisdom.” IVCF Graduate & Faculty Ministries, Pittsburgh, PA. Speaker: Allen Ross. Details: www.gfmma.org

**Nov. 18–21.** 19th Biennial Meeting of the Philosophy of Science Association, Austin, TX. E-mail: psa2004@temple.edu

**Nov. 19–20.** Keeping Ourselves Current IV: A Conference for Secondary School Teachers, San Antonio, TX. (617) 384-8047; E-mail: slefebvre@hds.harvard.edu

**Nov. 20.** Salt and Light: The Public Dimension of Christian Ethics, San Antonio, TX. E-mail: Vincent.E.Bacote@wheaton.edu

**Nov. 20–23.** American Academy of Religion Annual Meeting, San Antonio, TX. E-mail: AnnualMeeting@aarweb.org

**Dec. 3–5.** Concept-Therapy Seminar: Convergence of Science and Theology, San Antonio, TX. (210) 698-8445.

**Dec. 11–12.** Spirituality and Healing in Medicine: The Importance of Forgiveness, Chestnut Hill, MA. (617) 384-8600 www.med.harvard.edu/conted

**Dec. 12–16.** First International Scientific Symposium on Paradoxical Effects in Biophysics and Medicine, Carmel, CA. (831) 622-7975; E-mail: misaha@aol.com


**Jan. 20.** Canyon Institute for Advanced Studies Public Lecture Series, Phoenix, AZ. Speaker: Margaret Towne, “Genesis and Evolution: Integration.” (602) 589-2508; E-mail clas@grand-canyon.edu www.canyoninstitute.org

**Jan. 21–25.** Fourth International Conference on Enlightenment, Santa Fe, NM. (505) 474-7604; E-mail: message@bizspirit.com

**Jan. 27–30.** International Conference on Unity and Diversity in Religion and Culture, Seattle, WA. (360) 527-3006; E-mail: skyeburn@onebox.com

**Feb. 4–5.** Bioethics and Public Policy, St. Louis, MO. Speaker: Paige C. Cunningham. (636) 207-7540; E-mail: Barbara.Quigley@thecbc.org

**Feb. 17–21.** The Nexus: Where Science Meets Society, Washington, DC. (202) 326-6450; E-mail: aasmeeting@aas.org www.aas.org/meetings

**Feb. 24.** Religion, Spirituality and Aging: Purpose and Power in Retirement, Winston-Salem, NC. Speaker: Harold Koenig. Contact: Samuel Matthews. E-mail: shepcntr@bellsouth.net www.dukespirituality

**Mar. 3.** Canyon Institute for Advanced Studies Public Lecture Series, Phoenix, AZ. Speaker: George F. R. Ellis, 2004 Templeton Prize winner, “The State of the Science and Religion Dialogue.” (602) 589-2897; E-mail: cias@gcu.edu www.canyoninstitute.org

**Mar. 30–Apr. 1.** Wheaton C. Science Symposium, Field demonstrations, poster sessions, speakers and panels, Wheaton, IL. (630) 752-5866; E-Mail Jeffrey Greenberg, Chair, Dept. of Geology: Jeffrey.K.Greenberg@wheaton.edu

**With the Lord**

- William C. Eichelberger passed away July 16, 2001, at age 94. He was a National Research Fellow in chemistry at Columbia U. in the 1930s and research assistant for the late Nobel laureate Harold Urey. He retired in 1967 after 32 years with Allied Chemical Co.

- Eichelberger was an ordained Presbyterian elder and helped found Faith Heritage Christian School in Syracuse. We think he joined ASA in 1950 or earlier (materials were lost in a 1979 fire at the Elgin office). His other memberships included Phi Beta Kappa, Sigma Xi, ACS, AAAS and Christian Business Men’s Committee. He and Esther Dorr Eichelberger were married 66 years.

- Margaret E. Burns, his sister

- Joseph R. Hoover, M.D., of Fort Wayne, IN, passed away June 2, at age 70. His wife Elizabeth reports, “While he persevered almost 22 years with Parkinson’s Disease, the cause of death was related to his heart.”

**Job Postings**

For descriptions of available positions, visit the ASA web site: www.asa3.org
Unity Within the Christian World
Hugh Reynolds, in the dept. of neuroscience, Institute of Psychiatry, De Crespigny Park, London, UK, gave a Sunday morning Bible study prior to the worship service at the annual meeting in Langley. He stressed the need for unity among Christians noting John 17 where in verses 1–5 Jesus prays for himself, then in 6–19 he prays for his disciples, and in 20–26 he prays for all believers. Verse 22 says: “so that they may be one as we are one.” If we love one another, everyone will know that we are his disciples. Hugh said that unity is a sign of maturity in faith and that true unity is one in understanding, one in purpose, one in love, and one in mutual dependence (members of one body). God’s image as personified by the Trinity involves perfect unity. We are to embody that image by unity and love for one another.

Another insight Hugh gave was from Heb. 12:1: “For the joy that was set before him, Christ endured the cross.” We always think of Christ coming to suffer and die, yet this delightful point was that Christ was looking ahead to the JOY that would follow his accomplishment of the cross.

ASAer Wins Outstanding Award
ASA past president and member of our Executive Council, Kenell Touryan, National Renewable Energy Laboratory manager and former Soviet Union Country Programs Chief Technology Analyst, Golden, CO, received the prestigious NREL Technology Transfer Outstanding Achievement Award last spring. This recognizes exceptional initiative and performance in a technology transfer role. Technology Transfer is the process of moving NREL’s renewable energy and energy efficiency technology from the laboratory to the marketplace. Our warm congratulations to Ken in this significant ministry!