fifty plus: Engaging Today's Active Older Adults

The Longevity Revolution: Challenge and Opportunity

Aging Reinvented: A View from the 'Oldest' State

In Their Own Right: Adult Learning at Explora

Mutual Benefit: Partnering for Learning in Tampa

Aging for All Ages: A 'Lifelong Learning' Exhibition

Curious Scientific Investigators: A Cross-Generational Program

Research, Learning, and the Aging Brain
Call it the Age Wave, the Silver Tsunami, the Longevity Revolution. It's the demographic shift we're seeing as the "baby boom" generation, people born between 1946 and 1964, turns 50, 60, and more. According to ASTC's 2006 General Member Survey, 33 percent of ASTC museums already offer programs targeting senior citizens, but it will require increasing levels of sophistication to address the needs and aspirations of the active, aging boomers. Last June, representatives of 25 U.S. science centers and museums met for three days in Washington, D.C., with representatives of organizations that serve older Americans at the local, state, and national level. The conference was organized by the SPRY Foundation, ASTC, and other sponsors and funded by the National Science Foundation. In this issue, we share insights, outcomes, and resources from that event and describe how some science centers are reaching out to 50+ audiences.

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Cover: When it comes to today's 50+ adults, science centers and museums are finding that multiple approaches work best. From left: MOSI staff member Kirt Kobendersky conducts a chemistry session for older adults (photo by James LeClair); a Laguna Pueblo elder tests peace solution (photo by Kristin Leigh); CSI student gathers data with their Museum Friend (photo by Rick Crosslin).

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There are many ways to envision the coming century, but this is one I find particularly hopeful: Just as the 20th century saw revolutionary advances in the sciences relating to human health and life expectancy, so the 21st century will see revolutionary advances in the sciences relating to the human brain and mental capacities. Where once we focused on the problems of aging, now we can explore aging’s opportunities.

Advances in brain science will transform the lives of today’s adults aged 50 and older—a group that by the year 2035 will comprise 20 percent of the U.S. population and nearly 30 percent of the world population. What a resource these seniors will be, but only if they are able to benefit from the promise that science research holds for their lives.

The desire to help Americans stay interested, innovative, and productive well into their “golden years” was the impetus behind a June 2006 meeting, “The Longevity Revolution: How Science Centers Can Engage an Older America,” held in Washington, D.C., under the auspices of the SPRY (Setting Priorities for Retirement Years) Foundation, the nonprofit research and education organization of which this author is president.

Understanding the science of aging has been core to SPRY’s mission since our founding in 1991. A decade ago, SPRY partnered with the Robert Wood Johnson Foundation to explore ways that older adults process and retain new information. Based on preferences identified in that study, SPRY developed curricula to help older adults become active users of computers and the Internet and persuaded policy leaders to support a pilot program for testing those curricula.

We soon noted that the most successful training sessions were those in which children and seniors learned how to use technology together, as a team. The next step was to partner with the National Science Foundation (NSF) to examine how intergenerational co-learning might be applied more broadly in informal science education (ISE). Between 2001 and 2005, SPRY developed, tested, and evaluated 20 intergenerational learning modules in 20 cities, many in cooperation with science centers and museums. In the process, we came to appreciate the value of museums as potential partners in benefiting older adults, their communities, and the nation. The next step was to encourage the science center field as a whole to get involved.

Where once we focused on the problems of aging, now we can explore aging’s opportunities.

From the beginning, the 2006 “Longevity Revolution” conference was planned as a team effort, evidenced by the broad commitment of the key partner organizations: ASTC; NSF; the American Association for the Advancement of Science; NRTA; the educators council of AARP; and the Gerontological Society of America.

Going in, organizers had core questions: Would people in both the science center and the aging communities see the same opportunities that SPRY envisioned? Would their dialogue result in a positive balance of ideas and interest? Could participants design a movement that would actively engage vulnerable and underserved populations? What would it look like?

Our first goal was simply to introduce the science center community to the many local, state, and national organizations that work daily to improve the lives of America’s older citizens. Some 120 participants representing both communities took part in plenary presentations, panel discussions, and working groups.

After three days, attendees found themselves in agreement on some basic assumptions:

• The world is changing rapidly, especially in the realms of science, technology, engineering, and math. Very older adults feel they are being left behind, since they do not understand new developments, nor how those developments impact their lives, nor how to use some of the newer technologies.

• Science centers potentially could serve older adults in areas where the seniors perceive needs.

We also identified challenges:

• Science centers often do not understand the needs of seniors and may be unaccustomed to serving this population.

• Science centers have tended to engage older adults (generally retirees) in traditional volunteer capacities, not as learners.

• Seniors do not like to reveal their lack of knowledge or experience.

• Seniors perceive science centers as serving primarily school groups or families.

• Some seniors lack the mobility to come to science centers or to fully participate in museum programs.

Conference participants talked about ways to include underserved seniors, including older women and members of groups—African American, Latino, Asian, Native American—now in the minority but soon
Energetic, intellectually adventurous seniors are already seeking ways to enrich their lives and their communities.

How part-time work at science centers, in exchange for health insurance coverage or retirement accounts, might meet the needs of older adults. From grantmakers, we learned about community financial resources that might support our efforts, but only if we can demonstrate the principles and practices on which a model investment would be based and how it could leverage lasting benefits to science centers, older adults, and the community.

The conference resulted in a groundswell of interest among both communities in the possibilities of collaboration (see “Outcomes,” below). Our next task will be to do a more thorough assessment in partnership with members of both the U.S. science center and broader ISE communities, as well as with organizations in the aging community.

To that end, ASTC, SPRY, and NRTA will focus on in-depth evaluation of promising practices/principles for building partnerships and broad dissemination of results to the science center and aging communities. One outcome planned for later in 2007 is a dedicated online resource area on the ASTC web site.

And so we venture into new territory, even as we recognize that we may be behind the curve. Energetic, intellectually adventurous seniors are already seeking ways to enrich their lives and their communities. Together, science centers and the aging community have an extraordinary opportunity to provide to older Americans—and perhaps, by extension, to active aging adults in countries around the globe—tools for engaging with science in ways that can benefit both individuals and their nations.

Russell Morgan is president of the SPRY Foundation, Chevy Chase, Maryland; www.spry.org.

Outcomes of the “Longevity Revolution” Conference, June 2006

Evaluation of “The Longevity Revolution: How Science Centers Can Engage an Older America” was conducted in September 2006 by Gaylen Moore Program Evaluation Services. Actions already implemented or identified by interviewees as “next steps” included the following:

- Inform museum staff about Osher Institutes and aging networks in the community.
- Work with the state AARP office to develop a seniors’ needs assessment process.
- Initiate dialogue between science center and aging agency re partnership opportunities.
- Develop a more diverse approach to thinking about older visitors, distinguishing between baby boomers and those aged 85 or older.
- Seek funding for audiovisual equipment to provide real-time interactive science programming to senior centers.
- Develop a marketing plan based on free advertising strategies: notices in water bills, ads at the Senior Olympics, monthly advertising to older museum members.
- Work with development office to institute noninvasive individual-gift and planned-giving efforts for seniors.
- Get commitment for collaboration from local AARP Grandparents Network and Grandparents Raising Grandchildren.
- Arrange for Osher Institute to meet/present programs at the science center.
- Develop a monthly, one-hour aging-related lunch program for 50 people.
- Recruit seniors through local aging network organization for the museum’s coffee and conversation classes.
- Develop a collaboration with community college’s senior learning program.
Museums and Older Adults: A Senior Perspective

By Lynn Simmons

An initial challenge for museums wanting to reach older adults is what to call them. In America, we seem to have settled on “senior,” generally using the term to refer to retirees and their spouses, aged 65 and older, who have raised their children and now have time to do more together.

But AARP dropped “retired” from its own name some time ago and now uses age 50 as a starting point for membership. Retailers, who covet the crowds generated by “senior discounts,” offer benefits starting at 55, 60, 62, or 65. So what is a “senior”?

Well, let me tell you about my parents. My dad is 91; my mother, 87. They have been retired for many years. At first, they traveled widely to places in the United States and Canada. As health issues arose, their travel slowed, and they now drive about 3,000 miles a year. They live independently in an apartment building for seniors. They have learned to use computers and the Internet; they carry cell phones.

My parents no longer want things as gifts—they are interested in memories. Reading, taking a class, visiting a science center, art museum, or nature center are ways they continue to build those memories. They have not stopped learning just because they are senior citizens.

As their daughter, also now retired from a professional career, I share their perspective. In that spirit, I offer these responses to some frequently asked questions about seniors.

What do seniors want?
Just because we have left the workforce doesn’t mean we no longer want the mental stimulation that our working lives provided. We want to learn, we want to interact with new people—both young and old. We want to be physically and mentally active. We contributed to our employers, and we want to continue to contribute still, but in a new way. Many of us want to take on new projects and give back to the community we have lived in. We are looking for opportunities.

What are seniors capable of?
Seniors have a lifetime of experiences and accumulated knowledge to share. Give us the skills to communicate that knowledge, and we are an effective tool to help science centers and museums tell their story. Make the effort to appreciate our contributions. Everyone wants recognition.

What makes a museum inviting to visit?
As visitors, seniors want a map, either in our hands or posted prominently, so we can find our way around. We want to know where the restrooms are. We want somewhere to sit. We would like the type on signage to be a bit larger and darker. We enjoy presentations and classes. We like memberships that also allow us to visit other museums; it’s a way to help us grow while benefiting our own institution.

What makes a museum a good place to volunteer?
As volunteers, seniors appreciate flexibility in the number of hours we are asked to serve. We want access to background resources, so we can be effective in interfacing with the public. We want a special piece of clothing that makes us highly visible and inspires trust. We want to be able to sit down occasionally. We want the opportunity to give input to planning, especially if it involves our duties or our area of expertise. We want to be respected as a valuable resource.

How can museums reach seniors?
Older adults read. Effective promotion, whether for visiting or for volunteering, can be done through local newspapers, newsletters of professional organizations or retired employee associations, and fliers posted at senior centers and other agencies that serve the aging population. We like volunteer fairs that give us a wide range of options within our community. And we use the Internet to check local events and opportunities.

One final thought on "senior." This is the term that's current, but is it the term your museum wants to use? Focus in on how others in your community, especially those serving the aging population, refer to this age group. Do they say "older adults," "experienced adults," "elders"? The right word is important—but even more important is to recognize and welcome this audience. There are a lot of us out here, and we have a lot to share.

Lynn Simmons, a former schoolteacher, is a Pi Society Science Docent at the New Detroit Science Center, Detroit, Michigan.
Aging Reinvented:
A View from the ‘Oldest’ State

By Gillian Thomas

Jaime drives into Miami on his Harley Davidson and follows signs to the Miami Museum of Science & Planetarium. A sound engineer for 30 years, he recently sold his house in suburban Atlanta (not the same since his wife died) and moved to a center-city apartment with a studio. Spring is in the air, and this is his first long trip on the bike. He’s headed to a short job with old friends at Miami’s International Music Festival. The science museum is part of the “Near Stuff” consortium, which gets and presents new electronic and computer products as they emerge on the market. Jaime wants to check out the new flexible screens he’s heard about.

With 78 million Americans of the post-World War II “baby boom” generation rapidly approaching the traditional age for retirement, it’s a good time to consider how science centers might better relate to older visitors.

If the boomers’ behavior to date is any indication, their expectations and requirements for their later years will be very different from those of previous cohorts. And the sheer size of this group will challenge science centers and museums to rethink current approaches or risk losing a valuable sector of their audience. According to census predictions, by 2030 Americans over age 65 will make up 20 percent of the total population.

Add to this demographic projection the predicted changes in U.S. diversity and regional birth rates, and you have something that looks remarkably like my state, Florida, right now. Ahead of the curve in the 2000 U.S. Census, Florida had 17.6 percent of its population in the

65+ age group and only 22.8 percent in the 0–17 age group. (National figures were 12.4 percent and 25.7 percent, respectively.) In the same year, South Florida, the catchment area for the Miami Museum of Science & Planetarium, had 19.9 percent of its population at 65+ and 22.2 percent at 0–17. By 2025, it is predicted that the two age groups will balance out at around 21 percent.

Greater Miami was also one of the most diverse communities nationwide in 2000, with 40.5 percent of its population of Hispanic origin, 20.4 percent Black, not Hispanic, and 36.9 percent White, not Hispanic. The trend continues. Less a melting pot than a finely textured society, ours is a region where different groups live alongside one another but do not mingle. Already, approximately one-third of visitors to the Miami Museum of Science are of Hispanic origin, and our operation has become largely bilingual. Yet current statistics for the museum show only 6 percent of our visitors in the 65+ age group.

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Source: U.S. Census, 2003 Metropolitan Statistical Area Profile

Attracting older audiences

The first step in attracting any new audience is to understand that audience. With that in mind, I recently invited a group of our museum’s older volunteers to lunch. The average age around the table was probably 65 to 70.

“This museum has had good impact across the whole community,” I told my guests, “but we want to increase the number of activities we do with older visitors.” (I deliberately chose this neutral term, rather than “seniors” or “the aging community.”) “Is there anything you would recommend that we do?”

They thought for a while, and then one lady spoke up: “Well, Rose and I know about this because we’re heavily involved in arranging trips for the elderly…”

To this active retiree, “older” meant people in residential care. Obviously, my lunch guests didn’t see themselves as I saw them. That’s important to remember as we plan for the new 50+ audience.

Like most clichés, “You’re only as old as you think you are” recognizes a common truth. An experiment conducted by Yale University psychologist John Bargh further illustrates the power of suggestion when it comes to aging.

Two mixed-age groups of volunteers were recruited, ostensibly to work on a task about sorting words into sentences. Each group was given a different set of words. One of the sets contained a number of aging-related words—“gray,” “wise,” “wrinkle,” and the like. The other had no age-related words.

In actuality, the experiment didn’t begin until the volunteers had com-
A Field Guide to the U.S. Aging Community

By Richard Adler

In the next 10 to 20 years, the population of Americans older than 60 will increase by 60 to 70 percent. Science centers and museums looking to engage this older adult audience will find that they have many potential allies and partners. The following is a condensed version of a guide created by the author for the SPRY Foundation’s June 2006 “Longevity Revolution” conference.

THE AGING NETWORK

The “aging network” is a general term used to describe the U.S. federal, state, and local organizations funded principally by the Older Americans Act. In fiscal year 2005, total funding under OAA was $1.4 billion.

Administration on Aging (AoA)
www.aoa.gov

Located within the Department of Health and Human Services, the AoA is the central U.S. federal agency dedicated to policy development, planning, and the delivery of home- and community-based services to older persons and their caregivers. Its Resource Directory for Older People (www.aoa.gov/press/publications/rd2006.pdf) lists several hundred organizations in the field.

National Association of Area Agencies on Aging (N4A)
www.n4a.org

The Area Agencies on Aging (AAAs) were established in every U.S. state in 1973. Some are official city or county agencies; others are independent nonprofit community organizations. The 655 members of N4A coordinate and support a wide range of services for seniors.

MEMBERSHIP/ADVOCACY ORGANIZATIONS

AARP
www.aarp.org

With more than 35 million members (44 percent of whom work full- or part-time), AARP (formerly the American Association of Retired Persons) is the largest membership organization for people aged 50 and over in the United States.

NRTA
www.aarp.org/nrta

AARP’s educator community, the NRTA comprises older adults and organizations that have been or are involved with education and learning. NRTA is a sponsor, with the Dana Alliance for Brain Research, of the Staying Sharp program (see page 13).

PROFESSIONAL ORGANIZATIONS

American Society on Aging (ASA)
www.asaging.org

Among ASA’s constituent groups is the Lifelong Education and Renewal Network (LEARN), for individuals involved with or interested in adult education.

Gerontological Society of America (GSA)
www.geron.org

GSA members include scientists, educators, practitioners, and other professionals in the field of aging. Its public policy institute is the National Academy for an Aging Society.

National Council on Aging (NCOA)
www.ncoa.org

NCOA is dedicated to improving the health and independence of older persons and increasing their continuing contributions to communities, society, and future generations. Its National Institute of Senior Centers (NISC) provides coordination, communication, guidance, and accreditation.

MINORITY ELDERS

National Asian Pacific Center on Aging
www.napca.org

National Caucus and Center on Black Aged
www.ncba-aged.org

National Hispanic Council on Aging
www.nhcoa.org

National Indian Council on Aging
www.nicoa.org

INTERGENERATIONAL PROGRAMS

Generations United (GU)
www.gu.org

GU works to improve the lives of children, youth, and older people through intergenerational strategies, programs, and public policies.

Center for Intergenerational Learning
www.templecrl.org

Located at Temple University, the Center develops model programs, provides training and technical assistance, conducts research, and develops support materials.

(Continued on page 10)
Not everyone is feeling positive and looking forward to aging as a time of change and opportunity. The Harvard-MetLife Reinvigorating Aging report quotes the results of a survey among people a decade from retirement and categorizes their attitudes. They fall roughly into five groups:

- **Strugglers** (9 percent) have few financial resources; predominantly female, they are facing a life of increased insecurity as earned income diminishes.
- **Anxious** (23 percent) have some savings, felt employment was essential, and had health care concerns.
- **Traditionalists** (25 percent), with middle income and moderate savings, are the most diverse, had good intergenerational links, and expected to continue to work part-time to keep active.
- **Self-Reliant** (30 percent) are economically upscale, had significant savings, sought part-time work and integration in the community.
- **Enthusiasts** (13 percent) have substantially more savings, travel, and are optimistic, mainly male, and predominantly married.

The picture painted by this report also contrasts strongly with the traditional view of older people as possible volunteers. In fact, this group has a low incidence of volunteerism, preferring a short-term, focused activity that uses their professional expertise to a longer-term, generalized, low-level task.

**Promising directions**

The Harvard-MetLife study suggests that museums need a compelling rationale for building new infrastructure on the foundation of existing institutional loyalties and capacities. Our present ways of talking about and presenting science may not be appropriate for older audiences. Reinvigorating Aging calls for "new language, meaning, stories ... that simultaneously reflect the changing cultural realities of the 21st century, to evoke a new sense of what is possible and engage with boomers and the general public in re-envisioning the roles of elders and the meaning and purpose of one's later years." For older adults, these later years can be a time of reflection and wanting to make sense of what they have achieved and now to give back to their community.

What are some of the roles science centers can offer? We are places for social contact and enjoyment, with an opportunity for visitors to stretch their brains. Given the wealth of developing research in this area, we might invite participants in aging research studies to act as mediators on the floor, to help the public understand the process of research, as well as its outcomes. They could also lead the development of new programs for adults, as well as have an active role in intergenerational activities which can have a focus on them and their needs.

Science centers already have links into the community. We need to explore how we can join with partners to facilitate the movement of older people into areas of significant contribution. Our reach across cultures is a specific strength that we bring to these potential partnerships.

**Adapting to change**

Our first task is to assess just how ready we are to really rethink our focus. Can we see older people outside of their relationship to children? Can we perceive the older volunteer not as someone doing a small, undemanding task, but as the originator of a higher-profile activity? Can we find the means to pay older adults to work for us? Can we adapt our exhibitions and programs to focus on adults in their own right?

It's easy to agree we have great demographic changes coming, but not so easy to change how we think or to imagine fundamentally different ways of doing things. For example, to offer a wider range of opportunities to correspond to the larger skill base of the 50+ audience, we may need to create different occasions for social exchange and to develop, with partners, communitywide service initiatives. Some of these initiatives could reach out to youth as well and help cement links across generations. We also need to change the image and presence of older people in our media campaigns.

Large-scale efforts will be needed to mobilize boomers to contribute their time, skills, and experience to address community problems at a local level. The partnerships, resources and most importantly new ways of thinking are essential is we are to make this a reality.

In the same way that YouthALIVE! led the way in increasing the integration of underserved youth into science centers in the 1990s, a new initiative could both integrate older adults into science centers and increase science centers' strong links into, and impact on, local communities. SPRY's "Longevity Revolution" initiative has opened up the doors to the possibility; we just need to seize the opportunity and create the framework for this to happen.

I leave you with the following scenario, 10 years from now in our new Miami Museum of Science:

**On a bright spring morning, Marie, a pediatrician, jog over to the Miami Museum of Science. She is just back from Haiti, where she is directing a 20-year longitudinal study of children's health. As a participant in the Center on Aging at the University of Miami's long-term study of the effects of physical and mental activity on brain health, Marie has her own locker at the museum and can use staff facilities. She is part of a team that gives regular feedback on new products, particularly related to communication. Today, she intends to check out some new social games she's heard about. In the Meeting Place gallery, she joins four or five others at a round table to try an interactive game on the impact of climate change. Just then, a tall man in a leather jacket pauses in the doorway to remove his sunglasses. Their eyes meet...**

Gillian Thomas is president and CEO of the Miami Museum of Science & Planetarium, Miami, Florida, and a member of ASTC's board of directors. This article is adapted from a talk she gave at "The Longevity Revolution" conference, June 2006.
In Their Own Right:

Adult Learning at Explora

By Kristin Leigh

In a sunny activities room overlooking the red rock mesa, students around tables are digging through plastic bins of soil from the nearby Jemez Mountains. Some fill graduated cylinders with dirt and pour water into them to test absorption rates. Others find beetles and examine them under bug loupes. A few calculate the caloric content of their bin of soil.

Suddenly, a voice rings out. “I’ve found a tooth! Can I keep it?” The speaker flashes a delighted 80-year-old smile. “I lost most of mine years ago!”

The scene is the science club at the Laguna Rainbow Center, a provider of assisted-living and nursing care to the elders of New Mexico’s Laguna and Acoma pueblos. Each month, educators from Explora, a science center in Albuquerque, pile equipment and materials—from test tube racks and yucca solution to plasma balls and laptops—into an outreach van and make the trip to the pueblo, about an hour’s drive west of the city.

There are some 30 seniors in the science club, ranging in age from 54 to 101 years. Funding for the project came initially from Explora’s operating budget; once we saw evidence of its value to participants, other funding sources were sought. The science center recently received a 2006 MetLife grant (see “Grants & Awards,” page 23) for a continuation of the program.

To staff, the science club at Laguna Rainbow Center epitomizes what can happen when a museum takes its mission statement seriously, believes in its own pedagogy and program criteria, and takes a risk on a good idea.

In 2003, in preparation for opening our new facility, Explora staff developed a Guide to Educational Programs. Along with offerings for primary, middle, and high school students, it seemed logical to include options for adults and seniors. Our mission, after all, promised “opportunities for inspirational discovery and the joy of lifelong learning through interactive experiences in science, technology, and art.”

We envisioned the new Explora as having something for people from 1 to 101. We knew parents and grandparents would enjoy bringing children and supporting their learning, but we wanted Explora to be a place that also honors adults as learners in their own right. That meant taking three generations into account.

As an experiential educational institution, Explora tries to create learning opportunities through manipulation of material things. We encourage visitors to ask questions, draw inferences, manipulate variables, and get comfortable with new, tentative beliefs.

All of our exhibits and programs are developed through a deliberate process backed by pedagogy. Each strives to reflect specific criteria, and the degree to which it succeeds is discussed during staff review. We think experiential learning is not just the way children learn best; it’s the way all people learn best. That is the basis for our programs for seniors.

Our current Guide to Educational Programs lists 44 explorations for adults and seniors. Some examples:

- **Yucca, Yucca, Yucca:** What’s the difference between soap and detergent? How does either one compare with a natural soap made from yucca roots? “Suds up” with lab techniques designed to compare and test the power of these cleansing agents.

- **Kaleidoscope-Crazed:** Explore the amazing properties of mirrors, lenses, and light. Discover the wonderful images and patterns you get when angles and symmetry come into play. Design and build your own kaleidoscope.

- **Water on the Move:** How does water move through soil? Design, build, and test aquifer models to track contaminants, water tables, and well levels; experiment with filtering materials; and test water samples before and after for turbidity, hardness, and pH.

Developing classroom and theater explorations for adults and seniors in our first education guide was just one step. We also added this age group to our birthday party program (to date, we have hosted a 60th and an 85th birthday party), and in 2004 we instituted Adult Nights at Explora for visitors 18 and over.

Held on Fridays from 6:30 to 10:00 p.m., Adult Nights are built around themes; this allows us to provide shaped experiences in addition to our regular exhibits. Past themes have included heat, light and shadow, perception, architecture, and food. Adult Nights are advertised in both a trendy.
weekly newspaper and the local newspaper for seniors. Attendees are a wonderful mixture of spiked blue mohawks and coiffed white curls.

Another area of success with older adults is our Outreach Explorations program, sparked by a 2005 grant from MetLife to develop outreach for local senior centers (see "Promoting Healthy Aging," page 16). By showing activities coordinators what we can offer and what an engaging learning experience this can be for seniors, those first programs helped us build a following; we now provide outreach for several City of Albuquerque drop-in senior centers, a few assisted-living and nursing care centers like the one at Laguna Pueblo, local chapters of the Red Hat Society, and a senior women’s church group.

Explora has made inclusiveness a priority. To ensure that the exhibit floor is comfortable for older adults, we provide ample seating, from stools to benches and rocking chairs, and we consider accessibility for this group in exhibit and program criteria. Materials are adapted for wheelchair users or enlarged to be easier to see and grasp.

One reason why our classroom explorations are successful with older audiences is that seniors play a role in their development. Our older staff is a diverse group with varied backgrounds; some are bilingual. Some senior staff develop and facilitate programs; others work on the exhibit floor, ensuring that visitors engage older adults who are curious, lifelong learners, actively immersed in inquiry and the manipulation of materials.

At Explora, we work hard to create a sense of comfort and belonging, to welcome the sharing of personal experiences with the physical world among family, friends, and colleagues in quiet and easy interactions. We strive to create an environment where all who participate feel welcome and included, young and old alike.

Kristin Leigh is director of educational services at Explora, Albuquerque, New Mexico; http://www.explora.us/.

(“Field Guide, continued from page 7)

**Senior Employment**

**Senior Community Service**

Employment Program (SCSEP)

[www.doleta.gov/seniors](http://www.doleta.gov/seniors)

SCSEP provides subsidized, part-time, work-based training for low-income persons age 55 or older. More than 100,000 people participated in 2005.

**Senior Environmental Employment**

[www.epa.gov/epahrist/see/brochure/index.htm](http://www.epa.gov/epahrist/see/brochure/index.htm)

SEE enables retired and unemployed older adults age 55 and over to share their expertise with the Environmental Protection Agency (EPA).

**Volunteering/Civic Engagement**

**Civic Ventures**

[www.civicventures.org](http://www.civicventures.org)

Defining the second half of life as a source of social and individual renewal, Civic Ventures operates the Experience Corps (www.experiencecorps.org), recruiting older adults as literacy tutors and mentors in public schools and after-school programs, and sponsors Next Chapter, for baby boomers making the transition from mid- to later life.

**SeniorCorps**

[www.seniorcorps.gov](http://www.seniorcorps.gov)

Three Senior Corps programs—Foster Grandparents, Senior Companions, and RSVP—provide older citizens with opportunities to serve their communities.

**Education**

**Elderhostel**

[www.elderhostel.org](http://www.elderhostel.org)

The world’s largest provider of lifelong learning programs for adults age 55+. The Elderhostel Institute Network is an association of campus-based Lifelong Learning Institutes (LLIs) offering non-credit classes for community residents.

**The OASIS Institute**

[www.oasisnet.org](http://www.oasisnet.org)

This national, nonprofit educational organization for mature adults offers programs in the arts, humanities, wellness, technology, and volunteer service.

**Osher Lifelong Learning Institutes**

[www.usm.maine.edu/olli/national](http://www.usm.maine.edu/olli/national)

A network of college- and university-based educational programs for older adults, the OLLIs were established with support from the Bernard Osher Foundation.

**SeniorNet**

[www.seniornet.org](http://www.seniornet.org)

This nonprofit’s mission is to provide older adults with education in and access to computer technologies.

**Research Organizations**

**Alliance for Aging Research**

[www.agingresearch.org](http://www.agingresearch.org)

A nonprofit organization advocating for the research and care of older Americans.

**International Longevity Center (USA)**

[www.ilcusa.org](http://www.ilcusa.org)

One of a group of nonprofit, nonpartisan research, policy, and education organizations devoted to science-based policy development on population aging. ILC-USANA is affiliated with ILCs in Japan, United Kingdom, France, Dominican Republic, Argentina, India, and sub-Saharan Africa.

**MIT AgeLab**


A team of researchers, business partners, universities, and the aging community working to design, develop, and deploy innovations to improve the quality of life for older adults.

**National Institute on Aging (NIA)**

[www.nia.nih.gov](http://www.nia.nih.gov)

One of the National Institutes of Health, NIA leads a scientific effort to understand the nature of aging and to extend the healthy, active years of life.

**SPRY Foundation**

[see page 3](#)

[www.spry.org](http://www.spry.org)

**U.S. Census Bureau**

[www.census.gov](http://www.census.gov)

**Funders**

**Grantmakers in Aging (GIA)**

[www.giaging.org](http://www.giaging.org)

GIA’s mission is to promote and strengthen grantmaking for an aging society. Membership includes staff and trustees of approximately 100 grantmaking organizations.

**The Foundation Center**

[http://fdncenter.org](http://fdncenter.org)

Publisher of the online Foundation Directory.

Richard Adler, a former vice president of SeniorNet, is principal of People & Technology, a research and consulting firm in Cupertino, California.
Curious Scientific Investigators:
A Cross-Generational Program

By Rick Crosslin

"S"orry we caused a leak at the exhibit, and we had to leave the museum!" This cryptic note on stained paper was the first clue Mr. Cowley's third graders had that their field trip to the Children's Museum of Indianapolis would be unlike any they had experienced before.

To prepare for their visit, the students examined this physical evidence, watched short computer videos, and practiced with science tools—all supplied by the CSI: Curious Scientific Investigators program. Armed with hydrometers, hand lenses, and science journals, they were now ready to search the museum. Their task? To find data, using scientific methods, that would prove (or disprove) their hypothesis and solve "The Case of the Mysterious Stain." Their guides? A group of trained museum volunteers, many of them retired scientists and engineers, called the Museum Friends.

CSI: Curious Scientific Investigators began in 2004 as a focused, inquiry-based learning investigation, bridging the formal science needs of schools with the rich informal science resources of the Children's Museum. The pilot program, created by this author, was offered to the Indianapolis Public Schools and Wayne Township Schools.

Each CSI unit is divided into three parts: previst activities at school, data collection at the museum, and follow-up conclusions in the classroom. The program presents students with a real-life problem focused on some element of the museum. Students and teachers prepare for the investigation through a series of previst activities.

On arrival at the museum, students split into groups of five or six to conduct their investigations. Each team is assigned to a Museum Friend. Like the students, Museum Friends have gone through advance training—in their case, conducted by museum staff.

Many of these volunteers, whose ages range from 26 to 76, have been scientists, technicians, and teachers in their own careers. In training to be Friends, they learn to lead a guided science inquiry and to work with children.

For "The Case of the Mysterious Stain," the students know that one of five different galleries in the museum might be the source of the leak. One group heads straight for the Watering Hole in Dinosaur. Two others take the ramp up to ScienceWorks to investigate the Dock Shop and the Pond. The rest set out to find the Water Clock and the What If? Aquarium.

For the next three hours, the students will use their tools (thermometers, hydrometers, and graduated cylinders), collect data, make and record observations, and ask questions. Each observation will provide them with more data toward solving the mystery. Along the way, the Museum Friend will help shape their discussions, cultivating questions and seeing what emerges. But he or she will not provide answers. That would not be science.

While students are collecting data, their teachers receive professional development in setting up science investigations. The program makes use of videoconferencing and course-delivery software to disseminate CSI materials to students, teachers, and volunteers.

The Case of the Mysterious Stain was the pilot program for CSI. The museum, with input from Wayne Township, has now developed investigative challenges for grade 4 ("The Mysterious Mummy"), grade 6 ("Scientific Methodosaurus"), and grade 7 ("Biotech DNA"). Each follows the same model as the grade 3 project, with modifications based on results from evaluations. All CSI programs (continued on page 13)
Aging Resources

READINGS

WEB SITES
See also “Field Guide to the U.S. Aging Community,” page 7.

AGE: The European Older People’s Platform
www.age-platform.org
A European umbrella confederation of more than 100 federations and associations of older and retired people or organizations dealing with aging issues.

Dana Foundation: Brain Center
www.dana.org/braincenter.cfm
The site’s Brain Resources for Seniors pages provide older adults with links to information on brain health, education, and healthy lifestyles.

Retired and Senior Volunteer Program International (RSVPI)
www.hhp.umd.edu/AGING/RSVPI
Based at the University of Maryland, RSVPI works to develop, support, and enhance volunteer programs for individuals 50+ through a network of global partnerships.

University of the Third Age (U3A)
www.u3a.org.uk
U.K.-based U3A encourages people in the “third age” of life—i.e., no longer in full-time employment—to pursue educational and other interests in informal settings.

What’s in It for Me? Attracting Older Adults to Museums
By Douglas Wagner

Museum Friends Bob Chapman, left, and Douglas Wagner prepare for a CSI activity. Photo by Rick Graulin

Scientech is a group of retired scientists, medical professionals, engineers, and other technology professionals that was first organized in Indianapolis in 1918. We meet at the Children’s Museum once a week for lunch, and usually have 50 to 60 people in attendance. Our mission is to get kids involved in science. We support science fairs, for which our members are judges, and when the museum came up with CSI, we got involved as volunteers. Five or six of us are active as Museum Friends.

I was pleased to be asked to attend the SPRY Conference in Washington with the museum’s director of volunteers. The conference reinforced some ideas I had about effective strategies museums could use to attract older adults, both as volunteers and as visitors.

One good approach is to encourage folks to do more with their minds. For volunteers, emphasize that you offer professional-level training in science and science communication. It often works well to team an older volunteer with a younger person in a project. Another approach is to talk about contributing to society. Retired people want to be productive, too.

Approaching a group like Scientech is one way to go, but be aware that membership in these types of organizations changes. Scientech has had its best success with word of mouth, pressing people to bring their friends or giving members simple talking points to promote our programs. Museums might also try putting information in libraries or publishing notices in the newspaper.

As you prepare to welcome older adults, remember that many have issues that affect their willingness to come to a museum. Some older people can’t stand on their feet for long periods. Others don’t hear well, particularly in the higher registers common to women’s voices. This is a frustration that has caused some of my friends to literally withdraw from society. The use of wireless communication for an older visitors group could be extremely important.

Above all, the key in recruiting is “What’s in it for me?” Museums are selling fun, personal satisfaction, interaction with young people, lifelong learning, mental activity that you don’t get sitting at home watching TV. Those are persuasive arguments.

Douglas Wagner is chairman of science fair activities for Scientech, Indianapolis, Indiana, and a volunteer Museum Friend at the Children’s Museum of Indianapolis.
STAYING SHARP:
A Partnership for Brain Health

By Michael Patterson

At a public forum in Miami, 1,200 audience members laugh in recognition as Annette Norsman, president of NRTA: AARP's Educator Community, relates a personal story about searching high and low for a missing purse—only to discover it hanging from her shoulder! The point, she is quick to add, is that this incident took place when she was 30 years old.

Such cognitive slips can happen at any age, Norsman notes, but when an older person is involved, we assume it is age-related and wonder if it is an early sign of dementia. Building on this story, she leads a panel of neuroscientists through a discussion of brain health issues. Topics range from how the brain ages and how to differentiate between normal memory loss and dementia to what we all can do to keep our brains as healthy as possible. The audience is fully engaged.

The presentation is part of the national Staying Sharp initiative, a joint project of NRTA/AARP and the Dana Alliance for Brain Initiatives (DABI). It is a perfect partnership for focusing on the aging brain, with DABI providing content and contact information, the neuroscience research community and NRTA/AARP providing coordination, distribution, and marketing to members.

The good news message of Staying Sharp is that the latest research in neuroscience is optimistic and positive about the cognitive potential of the aging brain. Assumptions about the inevitable decline with age are increasingly being challenged. Recent insights about neurogenesis and brain plasticity lead many researchers to believe that cognitive abilities can continue to expand if we are able to avoid disease and practice healthy brain behaviors.

The positive Staying Sharp message is communicated through a variety of channels, including the Internet, media, and live presentations. Both AARP and DABI support extensive web resources (www.aarp.org/health/brain and www.dana.org/seniors) that focus on brain health and aging. In addition, the project has five core booklets available for distribution through participating organizations. Written in easy-to-understand language, these cover subjects like Memory Loss and Aging and Learning Throughout Life.

The live presentations take two basic forms: Staying Sharp forums, as described above, are moderated panel discussions with active neuroscientists; these two-hour presentations attract audiences in the range of 600 to 1,200 and include an extensive Q&A session. Staying Sharp has also developed multimedia programs built around PowerPoint presentations with imbedded video of neuroscientists. In 2006, 20 multimedia presentations were given by NRTA staff and volunteers to groups ranging from 50 to 500.

Recently, Staying Sharp partnered with the Kosland Museum of the National Academy of Sciences, in Washington, D.C., to offer three short presentations as part of a lunchtime series. These Staying Sharp sessions, which achieved the primary objective of attracting new and largely mature visitors to the museum, will continue in 2007.

To download the Staying Sharp publication shown above (pdf, 14 pp.), visit www.dana.org/pdf/other/sharp_learning.pdf. To learn more about the Staying Sharp program, contact Michael Patterson, NRTA Member Strategy Development, at 202/434-3562.

Public school teacher Rick Croslin is spending a year as school liaison for science learning at the Children's Museum of Indianapolis; www.childrensmuseum.org. Staff associated with Curious Science Investigators attended the June 2006 Longevity Revolution conference; to learn more about CSL, visit www.wayne.k12.in.us/csl.
What Research Says about Learning and the Aging Brain

With support from the Robert Wood Johnson Foundation, Ann E. Benbow and the SPRY Foundation conducted a meta-analysis of 300 journal articles to produce a monograph, Bridging Principles of Older Adult Learning (SPRY Foundation, 2002), that pulled out research findings from medical science, adult education, and communication technologies. Some of those findings are summarized here, along with related implications for educators to consider.

<table>
<thead>
<tr>
<th>Research Finding:</th>
<th>Implications for Instruction:</th>
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<tbody>
<tr>
<td>There are links between stimulating environments, continued growth of older adult brain cells, and learning and memory.</td>
<td>Instruction should take place in stimulating environments; e.g., hands-on settings, group learning, high interactivity with the curriculum, many and varied visuals, tailored feedback, intergenerational situations.</td>
</tr>
<tr>
<td>Older adults develop compensatory strategies—as some learning functions wear down, others take over.</td>
<td>Instruction needs to be designed for a variety of compensatory methods. For example, if an older adult has memory problems, he/she should be able to access reminders/content as many times as necessary in the course of performing a task or learning a skill. Those who are visual learners, yet have reduced eyesight, should be provided with larger text and images, as well as auditory back-up.</td>
</tr>
<tr>
<td>Older adults use their experience, skills, and knowledge in processing new information and making decisions.</td>
<td>Instruction/communication needs to take into account that older adults base their learning and decisions on a lifetime of experience, knowledge, and skills. This may mean that they can enter instruction at a higher level than younger people. It can also mean, if their existing knowledge base in some areas is flawed, they may need to “unlearn” and “relearn” some concepts. Pre-assessments can help to determine an older adult’s entry level into instruction.</td>
</tr>
<tr>
<td>Strategies for encoding, storage, and retrieval of information can help older adults learn effectively.</td>
<td>Instruction for older adults should include guidance on how to encode, store, and retrieve new information. This may take the form of using mnemonics or icons to stimulate recall and recognition.</td>
</tr>
<tr>
<td>Lifelong learning stimulates the cognitive process in older adults and provides them with a sense of control over their environment.</td>
<td>Communication/instruction for older adults should be structured to promote curiosity and learning. The communication should not merely “feed” information to the older adult, but stimulate the learning of that and related information. Asking the question, “Want to know more?” as an option is an example of how to extend opportunities for learning.</td>
</tr>
<tr>
<td>Beliefs and attitudes about memory (metamemory) have a significant impact on cognitive functioning.</td>
<td>In designing instruction, it is important to instill in older adults the feeling that they can remember such things as the steps of tasks they are learning to perform (self-efficacy). This feeling can be developed and reinforced by the opportunity to practice the task as many times as necessary, and to apply the skills learned from the task to a new situation as soon as possible. The feeling can also be strengthened by the use of memory monitoring tactics, memory clues, or refresher options.</td>
</tr>
<tr>
<td>Many older adults are “centered” with an outwardly directed, altruistic orientation.</td>
<td>Instruction for older adults should be designed to show clear connections between what they are learning and its impact on the outside world (lives of others).</td>
</tr>
<tr>
<td>Older adults have strong emotional bonds with other people, objects, and beliefs.</td>
<td>One way to build on older adults’ strong emotional bonds to others is to use case studies of “real people” to illustrate concepts and to develop skills.</td>
</tr>
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Reprinted with permission from Ann E. Benbow and SPRY Foundation, Research Findings and Strategies for Older Adult Learners. ©SPRY Foundation, 2002
Mutual Benefit: Partnering for Learning in Tampa

By Terrie Nolinske and Ara Rogers

At MOSI, the Museum of Science & Industry in Tampa, Florida, 11 full-time and 20 part-time educators present programs on-site and off-site to many audiences: teachers and students, families, individuals, and groups. The goal is to make a difference in people’s lives by making science real.

One audience MOSI has challenged itself to understand, attract, and retain is active older adults, aged 50 and up. As part of that effort, the science center has initiated partnerships with several organizations in Tampa’s “aging network,” including the Area Agency on Aging, some retirement communities, and the Life Enrichment Center.

MOSI’s newest partner in the effort to expand 50+ audiences and associated programming is the Osher Lifelong Learning Institute (OLLI) at the University of South Florida (USF), Tampa. In this article, we will highlight what each of us brings to the table and describe some challenges and opportunities encountered by both organizations in the course of the collaboration.

About the partners

MOSI was founded in 1962. Each year, 1 million people come to the science center to explore exhibit galleries on health and wellness, nutrition, flight and space, natural disasters, astronomy, and dinosaurs. Visitors learn about weather emergencies like hurricanes, floods, tornadoes, wildfires, earthquakes, and tsunamis, and discover how scientists, emergency managers, and reporters forecast, mobilize for, and inform the community about them. They explore the BioWorks Butterfly Garden and Backwoods outdoor natural environment. They ride the high-wire bike above the lobby. They enjoy planetarium presentations, interactive demonstrations, live theater, and large-format films. They can even check out books at an in-house branch of the Hillsborough County Public Library.

The 13-year-old OLLI at USF is one of a nationwide network of member-run learning organizations, generally operating under the supervision of a college or university, that tap into the often underappreciated wisdom of older adults as a resource for their own learning. The program is named for Bernard Osher, a California philanthropist whose Osher Foundation began funding existing and new lifelong learning institutes as OLLIs in 2001.

OLLI’s sponsor study groups and classes that range from lecture-style courses to hands-on, participatory, and discussion groups. Topics are academic in nature, presented at an undergraduate level. Each course extends over a period of weeks, allowing older learners plenty of time to process challenging information. There are no grades or tests, but some courses do require “homework,” generally in preparation for a group discussion or to practice recently acquired skills.

At USF, the learning institute comprises 700 older adults who plan, develop, teach, and support educational programs for learners like themselves. The average member is highly active, with a level of education above the average of his or her generational cohort. Most live in their own homes, not in retirement communities.

Challenges & opportunities

Science centers that want to attract 50+ adults must examine their own underlying motivations and reconcile them to the dynamics of partnering organizations. In the case of MOSI and the OLLI at USF, similar philosophical approaches to education make the partnership ideal. Each organization promotes learning through hands-on, problem-based, cooperative approaches, and individual and small-group activities or experiences are essential elements of programs at both.

An invitation to the upcoming June 2006 SPRY Foundation conference for science centers and the aging network was the impetus for our organizations to seek one another out last spring. Almost immediately, each partner found something it was searching for. MOSI supplied a speaker for a spring 2006 OLLI science program on innovations in science and technology—providing a chance for MOSI educators to expe-
perience the OLLI in its own milieu—and, in return, the OLLI circulated “Help Wanted” notices for museum volunteers and promoted MOSI programs among its members.

The OLLI also organized several programs at the science center in conjunction with MOSI’s recent Bodies exhibition. Since museum educators were more familiar with young audiences, OLLI staff conducted a workshop to help them better understand the 50+ audience. Those who facilitate programs for groups of 50+ adults, participants agreed, must be interesting and interested, patient, flexible, creative, and respectful—willing to take time to talk and to listen.

The most popular programs MOSI offers for 50+ adults are digital filmmaking, animation, computer genealogy, forensics, tai chi, watercolor painting, drumming, and medicinal use of plants. Favorite expeditions have included exploring caves, finding fossils, visiting the Kennedy Space Center, dissecting sharks, snorkeling, and hiking on a barrier island. On-site events during the year include an art fair, health fair/screenings, and a community walk in MOSI’s Backwoods that typically draws 2,500 participants.

In the past, MOSI educators have identified 50+ adult audiences through museum board members, associations, local special interest groups, the City and County Alliances for Citizens with Disabilities, and interest questionnaires put out during special events. Older adults have volunteered to help maintain exhibits and prepare education materials, assist in administrative offices, act as guest greeters, or take tickets for traveling exhibitions. Exhibits and education staff have met with 50+ adults to gather feedback on exhibit accessibility, new graphics, or exhibit prototypes and to gauge interest levels for permanent or traveling exhibitions.

Now all of these opportunities are open to OLLI members, many of whom are already active volunteers within the community. Plans are also under way to (continued on page 18)

Promoting Healthy Aging: The Metlife Grants

By Carolyn Sutterfield

Established in 1976 as the philanthropic arm of New York's MetLife insurance company, the MetLife Foundation works to "strengthen communities, promote good health, and improve education" through support for local educational, health, civic, and cultural organizations, including museums.

Recently, the Foundation has taken a particular interest in projects related to aging. In 2005, MetLife invited ASTC to join them in publicizing a new program, Partnerships for Lifelong Learning, to help science museums develop innovative programming and exhibitions for people of all ages, with a special focus on those that promote better understanding of aging.

Science centers and museums around the United States were invited to apply. Eighty-six responded, and 26 received grants totaling $1.25 million. Some winning proposals involved classroom-based or school outreach efforts, but 14 of the projects directly addressed aging, with exhibitions or programming for older or multigenerational audiences.

Two science centers—the Oregon Museum of Science and Industry (Portland) and the Exploratorium (San Francisco)—received support for new or expanded tours of existing exhibitions: Amazing Feats of Aging and Memory, respectively. Five ASTC members—the Reuben H. Fleet Science Center (San Diego), MOSI (Tampa), the Museum of Science (Boston), the Denver Museum of Nature & Science, and the New Detroit Science Center—got funding to create new exhibitions related to aging. (For a description of the Fleet's project, Aging for All Ages, see page 17.)

Other recipients focused on programming. Science Central, in Fort Wayne, Indiana, repurposed six school outreach sessions into "Science for Seniors," a program that traveled to a local assisted-living home. For three of the sessions (space science, weather, and geology), fourth and fifth grade students from a local charter school joined in activities with the seniors. "Those were the most fun," says education programs manager Lou Papai. "The children were getting something from the adults; the adults were getting something from the kids. It was really good." The museum is currently approaching a local foundation for support to offer a similar program at another assisted-living facility.

Grants also helped to seed new community projects. The Fairbanks Museum & Planetarium, St. Johnsbury, Vermont, leveraged its MetLife grant by combining it with funding from the Partnership for a Nation of Learners program at the Institute of Museum and Library Services. In collaboration with local libraries and Vermont Public Radio (VPR), the museum developed Eye on the Night Sky, a multigenerational outreach program that travels to a different library each month.

Fairbanks used its MetLife money to build a portable computer kiosk for exploring the observable night sky and to provide an educator for the two-hour sessions. VPR carries daily broadcasts on astronomy and hosts a shared interactive web site where Eye on the Night Sky participants can ask questions of experts. The program is a "way for us to encourage continual learning and shared experiences among generations," says Anna Rubin, Fairbanks' director of external relations. "Participants get a chart to take home. They can walk out of the library and look up and see what they've just been learning."

For a complete list of 2005 MetLife Foundation Partnership for Lifelong Learning recipients, go to www.astc.org/whats_new-learning.htm. For more information on the MetLife Foundation, visit www.metlife.org. A new round of MetLife grants has just been awarded; see "Grants & Awards," page 23, for details.

Carolyn Sutterfield is ASTC's editor.
Aging for All Ages:
A ‘Lifelong Learning’ Exhibition

By Paul Siboroski

Throughout our lives, our bodies and brains grow and change, but what does growing old really mean? To help visitors explore this question, the Reuben H. Fleet Science Center, in San Diego, California, used its 2005 MetLife Partnership for Lifelong Learning grant to create a 1,200-square-foot, bilingual (English and Spanish) temporary exhibition, Aging for All Ages. The exhibition and its accompanying monthly lecture series have proved to be a stimulating and thought-provoking experience for museum visitors, regardless of age.

Opened in May 2006, Aging for All Ages runs through May 2007. Each of its three sections—“Mind,” “Body,” and “Community”—includes hands-on components designed to help people learn more about the challenges they may face as they grow older, plus some strategies they might consider for a healthier future. Visitors can test the speed of their responses at Reaction Time, learn how bones grow and develop throughout life at Tone Your Bones, and see how they might look 20, 40, or 60 years from now at Face Aging. The exhibition highlights healthy lifestyle concepts like UV protection, diet, exercise, mental activity, and community involvement.

San Diego is a center of research on Alzheimer’s disease, so we made sure to include recent research findings in the exhibition. Indeed, the project could not have happened without the participation of local research centers like the Salk Institute and the departments of medicine and neurosciences at the University of California–San Diego School of Medicine, as well as community organizations like the San Diego Senior Center, the San Diego Alzheimer’s Association, and San Diego County’s Aging & Independence Services. These groups, together with numerous individuals, generously volunteered their time to help develop and review content and evaluate hands-on components.

One advisor from Aging & Independence Services was so enthusiastic that she secured additional funding for a videotape installation based on oral histories. The Fleet recruited senior San Diegans who had grown up or lived most of their lives in the city by sending e-mails and flyers to organizations that work with older adults, as well as to nearly 2,000 museum members aged 65 and up.

In all, 33 seniors, ranging in age from 66 to 88, came to the science center to be interviewed. They spoke on a variety of topics, from historical events they had witnessed to the challenging issues of growing old today. Each received a digital recording of his or her session and a copy of the final edited video. This component received an overwhelming response. Many of the interviewees have told us they were inspired to further document their lives for their own families.

Our next step was to create a monthly program targeted to an older audience. Held the first Monday of each month, “Afternoon Scholars: A Lecture Series for Adults” includes a 30- to 40-minute lecture, a period of related activities, and refreshments and social time afterward. Topics have included “Aging and the Brain,” hosted by the University of California–San Diego’s neurosciences department; “Discovering DNA,” conducted by a National Institutes of Health Fellow at the Scripps Research Institute; and “Drawing on the Right Side of the Brain,” featuring author Betty Edwards. This series will remain a permanent feature of our programming.

The final component of any project is evaluation. Through survey data collected from our visitors, we are in the process of determining whether we have met the exhibition’s objectives to provide visitors with opportunities to learn about healthy lifestyle habits, to expand their knowledge about basic functions of the human body, to showcase the effects of aging on the brain and the body, to provide a forum for discussing aging and society, and to highlight recent, important scientific research on aging.

Preliminary findings indicate that visitors are indeed connecting with our themes and messages. Data from interviews and questionnaires indicates high levels of satisfaction, with many visitors stating that they have learned something new from the experience. Certainly, the exhibit developers expanded their own knowledge and enjoyed the process of collaboration.

Paul Siboroski is director of exhibits at the Reuben H. Fleet Science Center, San Diego, California; www.rhfleet.org.
(continued from page 16) involve OLLI members as mentors with elementary-age children who participate in MOSI’s after-school program. OLLI members who have had careers in science, math, technology, and engineering can serve on career-interest panels with at-risk high school students from MOSI’s Y.E.S! Team (Youth Enriched by Science). Other collaborative activities are in planning stages, including jointly developed programs on science innovations and basic science literacy.

**Funding for sustainability**

For MOSI, the partnership has meant new educator skills and new venues for making science real to 50+ adults, as well as increased credibility and visibility to a relatively new cohort. For the OLLI, it has brought the chance to be more involved in tailoring and testing programming geared to the 50+ population, expanding the range of science-based learning opportunities for its members, and utilizing the expertise and facilities of the museum.

A recent gift from a MOSI board member, herself over 80, has allowed the museum to start an endowed fund for 50+ programming. Additional support includes fee-based programs, grants, private donors, and sponsorships. MOSI and the OLLI at USF plan to collaborate on grants to underwrite participation in programs for those who otherwise cannot afford to attend, as well as to fund program start-up and development costs.

As a cohort, today’s retirees are well educated. Is it possible to challenge the current paradigm of how science centers program for these active older adults? Our partnership is committed to giving it a try.

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**Terrie Nolinske is vice president of education at MOSI, the Museum of Science & Industry in Tampa, Florida (www.mosi.org), and Ara Rogers is director of the Other Lifelong Learning Institute at the University of South Florida in Tampa (www.usfSeniors.org).**

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### Calendar

#### JANUARY

**19-21** Science and Society: Closing the Gap. A free conference for science communicators; space limited. Boston, Massachusetts. Details: www.sciencetandsoctetyconference.com

#### FEBRUARY

**18-24** National Engineers Week (U.S.). Details: http://www.eeweek.org

#### MARCH

**8-18** National Science & Engineering Week (U.K.). Coordinated by the BA. Details: www.the-ba.net/nsew

**9-11** ASTC RAP Session.*
“Ultimate Science Show Discussion.” Hosted by Heureka, the Finnish Science Centre, Vantaa, Finland. Details: Lea Tuuli, lea.tuuli@heureka.fi

#### APRIL 2007

**1-30** Mathematics Awareness Month. Details: www.mathaware.org


#### MAY

**8-9** ASTC RAP Session.*
“Creating Quality Connections between Museums and Schools.” Hosted by Creative Discovery Museum, Chattanooga, Tennessee. Details: Lynn Mulligan, 423/648-6068, lpm@cdmfun.org


**18** International Museum Day. Sponsored by the International Council of Museums (ICOM). Details: www.icom.org/imd.html

**31-June 2** Ecite Annual Conference. Lisbon, Portugal. Details: www.ecite.net

#### JUNE

**7-9** CASC Annual Conference. Hosted by TELUS World of Science–Edmonton, Alberta. Details: www.canadiansciencecentres.ca/conferences.htm

**8** World Ocean Day. Sponsored by the World Ocean Network and The Ocean Project. Details: www.worldoceannetwork.org

**17-21** Visitor Studies Association Conference.

#### SEPTEMBER


#### OCTOBER

**13-16** ASTC Annual Conference. Hosted by the California Science Center, Los Angeles. Details: www.astc.org/conference/future.htm

*For information on ASTC RAPs, visit www.astc.org/proddev. For updated events listings, click on 'Calendar' at www.astc.org.*
From Polar Bears to Pumpkins: ASTC in Louisville

Despite a steady rain, spirits were undampened on Friday, October 27, as attendees began arriving for the 2006 ASTC Annual Conference in Louisville, Kentucky. Grabbing raincoats and umbrellas, delegates headed off happily to events like an all-day global warming seminar at the Bernheim Arboretum and Research Forest (see page 20) and a "backside tour" of the famed Churchill Downs racetrack.

For nearly a week, bright banners lined the streets of the River City as the hosting Louisville Science Center and its West Main Street neighbors welcomed visitors to the October 28-31 gathering. The lively downtown community, with its historic cast-iron-fronted warehouses, certainly embodied this year's theme, "Appropriate Growth: Sustaining Institutional Advancement." Even the red penguins at the trendy 21C hotel seemed part of the plan—an allusion to ASTC's International action on GLOBal warming (IGLO) initiative and upcoming International Polar Year (IPY) partnerships. More than 230 Louisville Science Center volunteers joined museum staff to make us all feel heartily welcome to the Bluegrass State. Kudos to executive director Gail Becker and her entire team.

In all, 1,675 registrants from 28 countries participated in ASTC 2006, with the largest non-U.S. delegations coming from Canada (74), the United Kingdom (28), and China (12). In one of our biggest Exhibit Halls ever, 150 vendors staffed 178 booths, offering the latest in informal science education products and services.

ASTC's newest Fellow
Saturday's opening session began with recognition of Dennis Schatz, vice president for education at the Pacific Science Center in Seattle, Washington, as the 2006 ASTC Fellow, the first museum educator to receive the award. Joining president Wit Ostrenko for the presentation were Kathy Leisses and Cindy Simpson of award sponsor Sodexo.

ASTC's highest honor, the Fellow Award for Outstanding Contribution is presented, at the board's discretion, to individuals "who merit special recognition for significant contributions to the advancement of public understanding of science and technology or to ASTC itself." Prior to this year, it had been awarded only to science center CEOs or to government officials closely allied to the field.

Among his many accomplishments, Schatz led the development of Science Carnival, a touring science center under tents that helped to launch more than a dozen new museums in the 1990s. He was also instrumental in building Science on Wheels, the Pacific Science Center's fleet of 15-passenger outreach vans. He is co-director of Washington State LASER, the only statewide science education reform effort currently overseen by a science center, and has participated in writing curriculum materials used in many classrooms.

Schatz has held leadership positions in ASTC, the Astronomical Society of the Pacific (of which he is currently board president), and the National Science Teachers Association; the latter gave him its Distinguished Service to Science Education award in 2005. Finally, he is the author of 18 children's books, which collectively have sold more than 1.5 million copies.

The citation on the award cited Schatz for his "creativity, commitment to sharing and partnering, and truly 'stellar' leadership, which have quietly, and deeply, touched us all."

Officers installed
Past president Per-Edvin (Pelle) Persson introduced the members of ASTC's board of directors and announced the results of this year's board elections. Wit Ostrenko, of MOSI, continues as president, aided by vice president Nancy Stueber, of OMSI; secretary/treasurer Lesley Lewis, of the Ontario Science Centre; and member-at-large Bryce Seidl, of the Pacific Science Center. Re-elected to new terms as directors were Kim Cavendish, Museum of Discovery & Science; Joanna Haas, Carnegie Science Center; Gillian Thomas, Miami Museum of Science & Planetarium; and Dennis Wint, Franklin Institute.

Speakers inform, inspire
Setting the tone for this year's conference, three distinguished speakers addressed delegates in Louisville.

On Saturday morning, Ron Crouch, director of the Kentucky State Data Center, found messages for science centers in recent demographic trends, stressing the need to welcome immigrant populations (they're countering the birth rate decline), help people to retrain for new jobs throughout their lifetimes, ensure that aging baby boomers stay healthy, and "make sure that every kid, regardless of skin color, social or economic status, is educated, skilled, and productive."

On Sunday, distinguished Harvard professor emeritus Edward O. Wilson read to us from his new book, The Creation, and delivered the message that "biodiversity is being eroded at an accelerated rate, inflicting a heavy price of wealth, security, and spirit." As we embark upon what will be "the century of the environment," Wilson said, "foresight and moral courage have to join with science to bring about change."
Finally, columnist and inspirational speaker Betty Bayé challenged us to "make the people love science and technology." Recalling her own wonder as a child visiting New York's Hayden Planetarium, she reminded her listeners, "Museums are the window to the world for kids who can't imagine a world beyond the one they live in....Take every teachable moment. Help the kids to see what you see."

**IGLO moves forward**

Interest in IGLO and IPY was clearly evident in Louisville. "Presenting the Science Behind Global Warming," the preconference workshop at Bernheim Arboretum, attracted close to 100 delegates. Participants enjoyed 18 poster presentations, engaged in stimulating discussions, and discussed new IGLO Toolkit products. A highlight of the day, repeated on Sunday, was the immersive PolarDome presentation by the Science Museum of Minnesota (SMM), featuring polar science stories captured by educators during the 2006 NABOS Arctic Expedition.

On Sunday, a morning organizational meeting found 50 delegates pledging to support IGLO activities during IPY. At two afternoon sessions, participants heard comprehensive and high-level science related to "Human Impact on Climate," presented by NASA and NOAA researchers.

ASTC extends special thanks to David Herring of NASA-Goddard Space Flight Center, Frank Niepold of NOAA, and Joel Halfvorson of SMM for their efforts in organizing the IGLO events in Louisville, and to the staff of the Bernheim Arboretum for their generous hospitality.

**'Edgies' Awarded**

During Sunday evening's conference banquet, three ASTC-member organizations and one science center professional were honored with 2006 Roy L. Shafer Leading Edge Awards. Now in their second year, the "Edgies" recognize both large and small ASTC members and/or their employees for extraordinary accomplishments in Visitor Experience, Business Practice, and Leadership in the Field. Honorees receive an etched glass award and a paid registration to the following year's ASTC conference.

Jury chair Dennis Schatz presented the Leading Edge Award for Business Practice (Large Institution) to the Orlando Science Center, Orlando, Florida, for Cocktails and the Cosmos, a monthly themed evening program for adult members and guests that combines food, drink, and a festive atmosphere with exhibits, films, laser light shows, and more.

Jury member Alan Nursall, of Canada's Science North, announced the recipients of the Leading Edge Awards for Visitor Experience. In the Small Institution category, the Hands On! Regional Museum, Johnson City, Tennessee, won for its Eastman Discovery Lab, a 675-square-foot exhibit area with smart board, computer-enhanced programs, distance learning capabilities, and hands-on experiments. The Lab not only engages visitors but also serves as a resource for the science educators of eastern Tennessee.

**Scenes from the 2006 ASTC Annual Conference October 28–31 Louisville, Kentucky**

The award for Visitor Experience (Large Institution) went to the Tech Museum of Innovation, San Jose, California, for TechTags, a program that personalizes and expands the science museum experience through small radio frequency identification (RFID) tags issued to each museum visitor. (See "A TechTags Update," ASTC Dimensions, July/August 2006.)

The Visitor Experience awards were sponsored by the Arizona Science Center, the Franklin Institute, the Miami Museum of Science & Planetarium, MOSI, Questacon, and Technoplis.

For Leadership in the Field (Experienced), the award, presented by Joe Ansler of sponsor Ansler Associates, went to Tracy Calagheros, executive director of Exploration Place, Prince George, British Columbia, Canada. Under Calagheros' direction, the museum initiated a comprehensive review by independent consultants, increased its volunteer hours 177 percent in two years; reorganized its board and staff; reducing turnover; and boosted school program participation by more than 400 percent.

ASTC thanks the 2006 Leading Edge Awards jury, which, in addition to Schatz and Nurstall, included Gail Becket, Louisville Science Center, Kentucky; Emily Fox, Discovery Center of Springfield, Missouri; Jo Haas, Carnegie Science Center, Pittsburgh; Julie Johnson, Science Museum of Minnesota, St. Paul; and David Leverton, TELUS World of Science, Edmonton, Alberta.

"Edgie" guidelines and nomination forms for 2007 are available at [www.astc.org/about/awards/leading_edge.htm](http://www.astc.org/about/awards/leading_edge.htm). The application deadline is March 29. Contact ASTC member-
A tip of the hat
Once again, we extend our thanks to the many sponsors who generously supported the 2006 ASTC Annual Conference. Total contributions, in cash and in kind, amounted to more than $229,000, with nearly $100,000 of that raised by the Louisville Science Center.

Donors contributing $2,750 or more included Emerald partners Natural History, E&S Spitz, and Barco; Turquoise sponsor SurveyWorks; Jade sponsors Ansel Inc. and Jeff Kennedy Associates Inc., and Conference Sponsors E. Verner Johnson and Associates, EwingCole, Exhibit Works, Hands On! Inc., Ideum, Sodexo, and White Oak Associates. To them and to all ASTC 2006 sponsors, our deep appreciation for your ongoing support of the field.

Next stop: Los Angeles and the California Science Center, for “Lights, Camera, Action: From Vision to Reality,” October 13–16, 2007. At ASTC 2007, we’ll explore how you can realize your creative dreams, from articulating goals and securing resources to ensuring that the final story reflects your mission, your brand, and your core values.

Cool shades, check. Sunscreen, check. California, here we come!

Conference recordings

Many ASTC 2006 sessions were recorded, and audio CDs are available for $17 each; a collection of all 86 ASTC recordings (in MP3 format) is $149. To order, visit Convention Recordings International’s website at www.conventionrecordings.com, and click on “Conference Listings.”

Ensuring ASTC’s Future

Each ASTC member is challenged by the need to increase resources to achieve its mission. The same applies to the organization as a whole. That is why we are launching the ASTC 21st Century Fund, an annual giving program for leaders in the informal science education field.

The goals of the fund are to support professional development and online resources for the field; to identify and promote promising and evidenced-based practices; to support ASTC’s efforts to increase the number of underrepresented groups that visit and work in museums; and to address science-related issues that affect society.

Donors will receive both recognition and benefits, including a special reception at the 2007 ASTC Annual Conference in Los Angeles.

Formal invitations to participate will go out in the next few months. When you receive yours, please consider becoming a founding member of the ASTC 21st Century Fund.

For more information, contact ASTC development director Betsy Blume, 202/783-7200 x116; bblume@astc.org.

Welcome to ASTC

The following new members were among those approved by ASTC’s Membership Committee in October 2006. Contact information is available in the About ASTC section of the ASTC website, www.astc.org.

SCIENCE CENTER AND MUSEUM MEMBERS

- Heinz Nixdorf MuseumsForum, Paderborn, Germany. With more than 2,000 artifacts displayed in 20,000 square feet of exhibition space, this member covers high-tech history from the origins of writing and numbers to the 21st-century computer age.
- International Wildlife Museum, Tucson, Arizona. Founded in 1988, the museum features more than 400 species of insects, mammals, and birds, as well as dioramas, videos, and hands-on exhibits promoting wildlife appreciation and conservation.
- Mayborn Planetarium & Space Theater, Killeen, Texas. Sky shows, laser light shows, and large-format films are among the offerings at this Central Texas College facility.
- Oak Hammock Marsh Interpretive Centre, Oak Hammock Marsh, Manitoba, Canada. A birding hot spot, this 14-square-mile wildlife area features more than 296 species of birds, 18 miles of nature trails, an endangered tall-grass prairie, and an interpretive center. The preserve is jointly managed by Ducks Unlimited Canada and the Province of Manitoba.
- Weinman Mineral Museum, White, Georgia. Back with ASTC after a brief hiatus, the museum is building a 125,000-square-foot facility, scheduled to open in 2008, that will house mineral and transportation galleries and a planetarium.

SUSTAINING MEMBERS

- Black Hills Institute of Geological Research, Inc., Hill City, South Dakota
- Fentress Bradburn Architects, Ltd., Denver, Colorado
- Mad Systems Inc., Orange, California
- Wildlife Worlds, New York, New York
MAKING PHYSICS FUN—What exactly is a Laser Interferometer Gravitational Wave Observatory anyway? On November 13, the new LIGO Science Education Center in Livingston, Louisiana, opened its doors, answering this question and many more in 5,000 square feet of hands-on exhibit space.

The Livingston observatory, opened in 2001, was created by the California Institute of Technology and MIT to detect astrophysical gravitational waves for the purpose of better understanding the unseen universe. Research is conducted by the LIGO Scientific Collaboration, a group of 500 scientists worldwide. The new Science Education Center brings LIGO-related science to the public, with over 40 interactive exhibits on eight themes: light, gravity, oscillations, waves, resonance, feedback, and astronomy.

Before entering, visitors encounter the center's signature exhibit, the Wave Wall, a 30-foot-high moving sculpture designed by artists at the Exploratorium, San Francisco. The magnetically coupled wave machine can be activated by the wind or by visitors themselves.

Interactive exhibits inside the science center were also designed and built by the Exploratorium. A sampling includes:

- Giant Slinky—illustrates transverse, longitudinal, and standing wave phenomena using a giant spring;
- Gravity's Rainbow—explores gravity's effect on trajectories and helps visitors to connect the concepts of velocity, acceleration, and distance;
- Gravity Well—allows visitors to simulate falling into a black hole;
- Visible Effects of the Invisible—shows how intense sound waves can be “seen” as they disrupt a liquid surface.

The center emphasizes teacher training as well, with 50 percent of activities focusing on educator professional development.

Funding for the LIGO Science Education Center was provided by a $5 million grant from the National Science Foundation. Other financial and organizational support is provided by the State of Louisiana and Southern University and A&M College at Baton Rouge.

Details: John Thacker, outreach program leader, jthacker@ligo-la.caltech.edu

SCIENCE AND SOCIETY—Is there a scientific basis for the concept of race? On January 10, the Science Museum of Minnesota (SMM), St. Paul, opens RACE: Are We So Different? a new traveling exhibition, developed in partnership with the American Anthropological Association (AAA), which addresses that query and others as it explores this most controversial of social science topics.

The idea originated with AAA but provided an ideal opportunity for SMM (which, under the direction of president Eric Jolly, has given special focus to equity and diversity) to accelerate its own efforts and extend similar opportunities to the field. Says project director Robert Garfinkle, “This exhibition offers other institutions the opportunity to engage their broader community and help to make a more civil society with science at the center.”

The exhibition experience is organized in three parts:

- In “Science,” the exhibits help visitors discover the current scientific understanding of human variation—how humans are both alike and different. The exhibits also challenge misconceptions about race, revealing that humans are more alike than any other living species and that no one gene or set of genes can support the idea of race. Visitors can try to match voices to photos based on speech patterns and inflection, or scan their own skin shades to create “tiles” in a computer mosaic.

- “History” explores the invention and development of the idea of race in the United States. Visitors can learn about the social, political, and economic forces that have determined U.S. Census race categories, and vote on how they think race should be considered in the next census.

- In “Everyday Experience,” visitors can explore personal experiences of race in key realms of American life, such as schools, neighborhoods, and health and medicine. The Living with Race Theater lets them both hear and respond to people talking about their own experiences with race and racism.

Throughout the exhibition, photos by St. Paul artist Wing Young Huie illustrate the common experiences that link and divide people of all races.

Funded by $4 million in grants from the National Science Foundation and the Ford Foundation, RACE has emphasized community involvement and discussion both in its development stages and as a completed project.

To help shape programming and extend the impact of the exhibition in the community, SMM assembled an 18-member local advisory group that met monthly with museum staff. In February, the museum will premiere a short theater piece written by local high school students, in collaboration with a professional playwright, that draws on their experiences with race and racism. Visitors may also participate in Talking Circles, joining a trained facilitator to discuss thoughts and feelings evoked by exhibition content. As RACE: Are We So Different? travels, centers can draw on these materials or develop similar programs centered on their own communities.

After closing at SMM on May 6, the exhibition will travel for at least five years. A web site, being developed by S2N Media, Inc., will include a
虚拟之旅，展览的教育活动和材料对学者、教师和家庭。

**Details:** Sarah Imholte, public relations coordinator, simholte@smn.org

**CYBERMEDICINE**—The role of computers in medical science is increasing rapidly. On October 25, Heinz Nixdorf MuseumsForum (HNF), a new ASTC member in Paderborn, Germany, unveiled *Computer.Medicine*, a 10,700-square-foot exhibition aimed at providing an overview of the ways computer technology is changing today’s health care. Geared toward laymen and professionals, the exhibition features state-of-the-art medical computers and machines, as well as 35 interactive exhibits.

Visitors begin their exploration in the Anatomic Theater, using computer programs to take a 3-D virtual tour of the human body. From there, they move to Physical Wellness and a Healthy Lifestyle, a section featuring biofeedback devices and sports equipment (including an “intelligent” running shoe). Using a treadmill, visitors can even compete against a world-record-holding marathoner.

*A View into the Body* covers a range of diagnostic imaging tools, from digital X-rays to ingested capsule endoscopy. Two sections, Operations on the Body and Aids for the Body, focus on patient treatment and support: There, visitors can see and test state-of-the-art prosthetic limbs, virtual-reality devices designed to treat phobias, and a “telerobot” that allows doctors to perform minimally invasive surgery.

The last area demonstrates Germany’s Health Card system, a pilot program introduced in early 2006. Visitors receive a functioning electronic card that can be used to receive electronic prescriptions in a re-created doctor’s office and then “filled” in the exhibit’s “pharmacy.”

*Computer.Medicine* was developed as part of HNF’s 10th-anniversary celebration. It will remain on display at the center through May 1 and will be available as a traveling exhibition (German or English) in June 2007.

**EXPANDING REACH**—Science centers in Arkansas have banded together to form the Arkansas Discovery Network, launched in October and funded by a $7.3 million grant from the Donald W. Reynolds Foundation. The network will work to make hands-on exhibits more easily accessible to rural residents, providing traveling programs for museum partners and professional development opportunities for teachers.

Traveling exhibitions, beginning with *Grosology* will be shared by network partners, rotating through every region of the state. Also in development is a 40-foot “museum on wheels” featuring nine interactive exhibits, which will go out to rural areas. To help students get to the partner centers, the network will provide scholarships to schools for transportation and admission fees. The network also has provided funding for teachers to attend the Exploratorium’s summer Teacher Institute.

To date, members of the Arkansas Discovery Network include ASTC members *Museum of Discovery, Little Rock,* and *Mid-America Science Museum,* Hot Springs, as well as the *Arts and Science Center for Southeast Arkansas, Pine Bluff; the Texarkana Museum System, Texarkana; the Arkansas Museum of Natural Resources, Smackover; the Arkansas State University Museum, Jonesboro,* and the University of Arkansas Center for Math and Science Education, Fayetteville.

**Details:** Diane LaFollette, network coordinator, dalfollette@amod.org; www.arkansasondiscoverynetwork.org

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**Grants & Awards**

On December 4, 2006, the MetLife Foundation announced the winners of its 2006 Partnership for Intergenerational Learning grant program. Fifteen U.S. science museums received grants totaling $1 million. The program is intended to increase educational opportunities across the age spectrum and encourage exhibits that promote a better understanding of aging, brain health, and healthy lifestyles. ASTC awardees included the following:

- **Da Vinci Discovery Center of Science and Technology,** Allentown, Pennsylvania: $45,000 for an inquiry-based program for children, parents, and grandparents.
- **Discovery Center of Science and Technology,** Syracuse, New York: $100,000 to create an exhibition on the brain and brain health.
- **Explora,** Albuquerque, New Mexico: $40,000 to develop a program for middle school students and residents of a senior center in a Native American community.
- **Gateway to Science,** Bismarck, North Dakota: $40,000 to rent and then purchase two OMSI traveling exhibitions on the brain.
- **Gulf Coast Exploreum,** Mobile, Alabama: $30,000 to develop a multimedia program, *Think Healthy.*
- **The Health Museum,** Houston, Texas: $100,000 to create an Aging Machine exhibit.
- **Mary Brogan Museum of Art and Science,** Tallahassee, Florida: $75,000, to create an exhibition addressing brain health, exercise, nutrition, safety, and other issues of aging.
- **Miami Museum of Science & Planetarium,** Miami, Florida: $90,000, in partnership with the University of Miami’s Center on Aging, to develop experiments on staying sharp in later years.
- **New Detroit Science Center,** Detroit, Michigan: $100,000 to develop an exhibition, *Good Health Can’t Wait.*
- **New York Hall of Science,** Queens: $50,000 for intergenerational programs and training for its Explainers.
- **Palouse Discovery Science Center,** Pullman, Washington: $100,000 to develop an exhibition, *Brain Power,* in collaboration with local partners.
- **Science Museum of Minnesota,** St. Paul: $50,000 to develop and test three models of intergenerational learning programs.
- **ScienceSouth,** Florence, South Carolina: $50,000 to develop intergenerational programs using the *Design and Build* process.
- **SciTech Hands On Museum,** Aurora, Illinois: $50,000 to develop programs to engage participants of all ages in science learning.

The Edmonton Space & Science Foundation, operator of TELUS World of Science-Edmonton, Alberta, Canada, has appointed David Leverton as senior vice president and chief operating officer. Leverton was previously CEO of Science Alive! The New Zealand Science Centre, Christchurch, New Zealand.

Marilyn Waters, director of special projects at the Museum of Nature and Science, Dallas, Texas, retired on November 30, 2006, after 45 years with the museum. She was on staff when the museum, formerly known as the Science Place, became one of the founding members of ASTC.

Walter R.T. Witschey, director of the Science Museum of Virginia (SMV), Richmond, has announced his retirement, effective July 1. He will continue to hold the title of director emeritus. During his 15-year tenure, SMV completed a $20 million renovation of its Broad Street Station home; expanded its educational mission statewide; and launched projects to build three new science centers. A longtime ASTC board member, Witschey served as ASTC president, 2001–2003.

The Las Cruces Museum of Natural History, Las Cruces, New Mexico, one of four cultural institutions run by the city, has appointed Michael Walczak as museum manager. Walczak was most recently executive director of the Howard County Historical Society, Ellicott City, Maryland.

We note with sadness the passing of David J. Combs, former deputy director for education at the California Science Center, Los Angeles. Combs, who was 48, died of brain cancer on October 31, 2006. He joined the then California Museum of Science and Industry in 1991 as life sciences curator and was the leading force behind the creation of the museum’s World of Life gallery. Combs directed the Amgen Center for Science Learning and was instrumental in planning the Science Center School, which opened in 2004.

ASTC welcomed four new staff members in late 2006. They are Janice Deputy, a consultant to nonprofits, as communications coordinator for the IGLO initiative; Margaret Glass, former education content developer at the Arizona Science Center, as communications coordinator for the Nanoscale Informal Science Education (NISE) network; Zugeily Robinson, formerly with the Smithsonian Institution’s Lemelson Center, as assistant manager, ASTC Exhibition Services (replacing Erin Outtrim); and Ceres Gibson, most recently a student at Virginia Commonwealth University, as receptionist/administrative assistant.