TRAVELING EXHIBITIONS, PERMANENT INSTALLATIONS AND MUSEUM PLANNING

Stop by booth 528 at the 2011 ASTC Annual Conference for more information.
The Convivial Museum
Kathleen McLean and Wendy Pollock

In a time of challenge, what can museum professionals do to assure that museums continue to fulfill their promise as essential public institutions? This richly illustrated book offers reflections about key dimensions of a defining quality of vibrant public places, which the authors call “conviviality”—a welcoming spirit, orientation to the community, comfort, opportunities for social engagement, and places for healing and renewal.

#158
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New Dimensions

ASTC is committed to helping our members worldwide achieve their goals, by equipping individual professionals with essential skills, providing member institutions with valuable information and perspectives, and linking our members to one another.

With this mission in mind, we are proud to present the newly redesigned Dimensions magazine. We hope you’ll find the new magazine to be even more relevant, readable, and attractive.

In January, we conducted a survey of Dimensions readers. You told us you wanted a greater focus on best practices and practical information. You’ll now find more of both within the magazine’s pages. You said you wanted additional guidance on addressing current issues. In this edition, for example, we feature the topic of financial viability and how to navigate challenging times. You also asked for content that more fully represents science centers and museums of all sizes, staff at all levels, and local contexts around the world. To aid us in our constant effort to showcase the varied voices from our diverse membership, we’ve added several new departments:

1) Viewpoints (page 9) highlights your responses to questions of interest to our field. These discussions continue on our website and Facebook page (www.facebook.com/ScienceCenters).

2) What We Learned (page 15) presents lessons learned from projects in exhibit development, education, finance, and/or operations.

3) Q&A (page 42) features interviews with intriguing people from all levels of science center and museum staff, as well as people in related fields.

4) Inbox (letters to the editor) will appear in future issues. Please email your thoughts on Dimensions articles or the new redesign to dimensions@astc.org (subject line: Inbox).

Keep an eye on www.astc.org/pubs/dimensions.htm in the coming months as we add more content to support Dimensions, including online discussions, extended content for departments, and an archive of back issues.

We are also exploring a new approach to distribution. Any paid staff member at an ASTC-member institution can now request a free subscription to either the print or electronic edition of Dimensions at members.astc.org. Please spread the word to your colleagues.

We hope you enjoy the new and improved Dimensions. We look forward to hearing from you.

Anthony (Bud) Rock is ASTC’s CEO. Visit ASTC’s website (www.astc.org) to read more From the CEO editorials.
**A NEW MISSION**

NASA's space shuttle fleet will retire from space exploration this year, but not from active duty. Four shuttle orbiters will be displayed in museums, where their new mission will be educational. Two of the museums—the **California Science Center**, Los Angeles, and the **Intrepid Sea, Air & Space Museum**, New York City—are ASTC members.

NASA Administrator Charles Bolden announced the shuttles’ new homes at an April 12 event at the Kennedy Space Center, Cape Canaveral, Florida. The sites were chosen from more than 20 proposals submitted by organizations across the United States.

The California Science Center will receive **Endeavour**, which completed its final mission on June 1. Like all the shuttles, it was manufactured in southern California. The science center plans to build a new air and space facility featuring **Endeavour**.

Intrepid will be home to **Enterprise**, the first shuttle built. The museum is considering several options for how to exhibit it. Both museums expect to receive the shuttles in 2012 and are raising funds for their delivery and the new exhibits.

NASA has also allocated shuttle artifacts to four other ASTC members: the **Adler Planetarium**, Chicago; the **Evergreen Aviation & Space Museum**, McMinnville, Oregon; the **Museum of Flight**, Seattle; and the **U.S. Space & Rocket Center**, Huntsville, Alabama. —Sharon Barry

**Details:** Kenneth E. Phillips, curator for aerospace science, California Science Center, kphillips@cscmail.org; Luke Sacks, director of public relations, Intrepid Sea, Air & Space Museum, lsacks@intrepidmuseum.org; www.nasa.gov/topics/shuttle_station/features/shuttle_homes.html

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**GREEN TEAMS**

British Columbia is cleaner and greener than it was six months ago, thanks to students in 116 elementary and secondary schools who participated in the third annual BC Green Games, created and managed by **Science World British Columbia, TELUS World of Science**, Vancouver, Canada.

Last year, 139 teams of students came up with ideas for conserving energy, protecting habitats, reducing waste, and solving other local environmental problems. They carried out their projects and shared what they did through photo essays, PowerPoint presentations, and videos online.

In April, a panel of 72 environmental educators and scientists selected 10 elementary teams and 10 secondary teams to receive $1,000 awards. Five other schools received Viewer’s Choice prizes of $500 through online voting by over 7,000 students, teachers, and members of the public. Every participating team received a certificate and kit (both green, of course) to celebrate its success.

“BC Green Games increases student awareness of environmental issues and their own ability to become local leaders and improve sustainable practices,” says Kate Henderson, project manager for BC Green Games. The BC Ministry of Education’s Green School Strategy prompted the program, and presenting sponsors BC Hydro and FortisBC cover the basic costs. —S.B.

**Details:** Kate Henderson, project manager, kate@bcgreengames.ca, www.bcgreengames.ca

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The Space Shuttle **Enterprise** flies free during a 1977 test. Photo courtesy NASA

Students from Dover Bay Secondary School, Nanaimo, British Columbia, Canada, were honored for their work restoring stream habitats and repopulating coho salmon. Photo courtesy Science World British Columbia
KIDS ON A QUEST

In Atlanta, the Fernbank Museum of Natural History’s newest permanent gallery, Fernbank NatureQuest, challenges children to investigate like real scientists. Visitors to the 7,000-square-foot (650-square-meter) experiential exhibition can engage in nearly 100 hands-on experiences—all with minimal signage.

Children ages 2 to 10 can immerse themselves in a swamp, pine forest, cave, and three other Georgia ecosystems. Within those habitats, they can go on an archaeological dig, follow animal tracks from 11 species, look through night vision binoculars, and encounter baby alligators and other live animals. At a multilevel clubhouse in the trees, they can participate in different scientific activities and pick up scavenger hunt cards.

The exhibit team embedded technology throughout the exhibition in a naturalistic way. For example, kids can “wade” into a virtual river on the floor and watch catfish and trout swimming.

The $8 million exhibition was funded by individuals and foundations. Since it opened in March, museum attendance has risen by 40% and membership by 25%. “It’s been great to see visitors figure things out for themselves,” says Christine Bean, vice president of education. “You don’t have to teach kids how to explore.” —S.B.

Details: Brandi Berry, director of public relations and promotions, brandi.berry@fernbankmuseum.org, www.fernbankmuseum.org/explore-exhibits/permanent-exhibitions/fernbank-naturequest

Photos clockwise from top left: Water ripples and fish dart away when kids splash in a virtual river; near the clubhouse, a budding entomologist studies insects from around the world; a rope bridge provides an aerial view of the habitats below. Photos courtesy the Fernbank Museum of Natural History.
PLAYING MIND GAMES

Nothing is quite what it seems in the newest permanent exhibition at Science Museum Oklahoma, Oklahoma City. Mind Games, which opened December 16, 2010, combines hands-on experiences with works of art, inspired by artists including M.C. Escher, to present the science behind human perception and optical illusions.

In one display, visitors discover a needle incorporated into a kinetic sculpture. As they try to thread the needle, they find that one of their eyes is more dominant than the other. In another exhibit, faces appear as a vase revolves on a turntable. “It’s like walking through Wonderland,” says Suzette Ellison, vice president of programs and interpretation.

Designed for kids of all ages, the interactive exhibition emphasizes the connection between art and science. “In school, kids go to one class for art and another for science,” says Ellison. “We want to show that science is part of everything we do.” The museum’s in-house design team spent about a year creating the 4,600-square-foot (430-square-meter) exhibition, using funds from the general operating budget. —S.B.

Details: Alex Mattison, communications coordinator, amattison@sciencemuseumok.org, sciencemuseumok.org/mindgames

Mind Games explores human perception and the intersection of art and science. Images courtesy Science Museum Oklahoma
What steps has your institution taken to maximize its relevance to its community?

On March 11, Japan was confronted with unprecedented disasters from the combination of earthquakes, tsunamis, and radiation. We collaborated with researchers to offer understandable, trustworthy, science-based explanations on a Q&A webpage. We are also planning special events and exhibitions.

Yuko Okayama, science communicator
Miraikan: National Museum of Emerging Science and Innovation, Tokyo, Japan

We talk regularly to community members and leaders, who help us keep our feet on the ground. Thus, for example, we have avoided exhibits on flight, as our visitors never see an airplane in the sky, focusing instead on cars, which are commonplace.

Derek Fish, director
Unizul Science Centre, Richards Bay, South Africa

Our newest exhibition, The Oregon Room, allows visitors to explore the geology, topography, and local wildlife of our state. From a slideshow produced by area schoolchildren to the animatronic cow donated by the Marion County Dairy Women, the exhibition illustrates the web of community support that helps us thrive.

Stephanie Lenox, promotions director
A.C. Gilbert’s Discovery Village, Salem, Oregon

We help teachers use the museum as a tool in their work. The more than 5,000 teachers who have attended our workshops can bring their students to the museum at a reduced rate. This has become a widely used resource for schools attended by poor children.

Mireya Caldera Pietri, director
El Museo de los Niños de Caracas, Venezuela

▲ Our 50,000+ school field trip visitors receive a demonstration on how to create a “zero waste lunch,” helping us integrate our recycling and composting program.

Robert Ade, communications and media coordinator
Chabot Space & Science Center, Oakland, California

We are consciously moving toward creating opportunities for our visitors to take part in local current science, including citizen science projects like Monarch Watch and Frog Watch. We’ve also delivered two successful Science Cafés focusing on local research.

Jenny Fortier, staff scientist
Science North, Sudbury, Ontario, Canada

Visit www.astc.org/blog/category/astc-dimensions/viewpoints for an extended discussion of this question.

Tell us: Do you think science centers and museums have a role in developing or hosting exhibitions on controversial topics? Why or why not?

Email dimensions@astc.org (subject line: Viewpoints), or post on our Facebook Page (www.facebook.com/ScienceCenters). Include your name, title, and institution. Responses will be printed in future issues or on our website. We reserve the right to edit responses.
Compelling featured speakers

Two featured speakers have been confirmed for ASTC 2011.

Since joining the staff of the New Yorker in 1998, Michael Specter (see Q&A, page 42) has written about the global AIDS epidemic, avian influenza, malaria, and more. In his 2009 book Denialism: How Irrational Thinking Hinders Scientific Progress, Harms the Planet, and Threatens Our Lives, Specter argues that the public’s growing mistrust of the institution of science has led to a war on progress.

Appointed by U.S. President Barack Obama to head the National Oceanic and Atmospheric Administration (NOAA), Jane Lubchenco is one of the world’s most highly cited ecologists. She has co-founded three organizations that communicate scientific knowledge to the public, policy makers, the media, and industry: the Leopold Leadership Program, COMPASS, and Climate Central. At NOAA, Lubchenco focuses on using the best science available to “revive our fisheries and the economies they support, advance the next-generation geostationary and polar-orbiting weather satellites, and enhance NOAA’s diverse portfolio of climate services.”

Chances to network

Networking opportunities abound at ASTC 2011. Check out the informal Baltimore Welcomes You! receptions, to be held Friday evening in the historic Federal Hill neighborhood. On Sunday evening, join any of these four free networking receptions:

- Advocates for Diversity
- Development, Marketing, and Membership
- Exhibit Developers
- Museum Educators.

Phenomenal sessions

ASTC 2011 features more than 100 sessions to instruct and inspire you. Gain insight into how science centers can demonstrate their value to stakeholders. Learn how to use social media to promote mission and grow margin. Find out how institutions are building bridges between development, membership, and guest services. For details on specific sessions, visit conference.astc.org/search-conference-program.

Exhibit Hall

Exciting things are happening in the Exhibit Hall this year, open Saturday and Sunday. Talk with Poster Showcase presenters about everything from maximizing earned income to creating and nurturing partnerships to addressing societal issues. Enjoy the always-captivating Live Demo Hour, and chat with ASTC staff during their office hours in the ASTC Resource Center. And of course, learn about the latest products and services from...
New this year, Innovation Space is designed to offer intriguing glimpses into the future of science learning.

our exhibitors. (Visit conference.astc.org/search-exhibitors for a current list.)

New this year, Innovation Space is designed to offer intriguing glimpses into the future of science learning and to address the important role of science in our lives. It draws on some of the latest research and most innovative learning tools within and outside the field today.

Intended to provoke, to inspire, to create conversations, and to expand the relevance of the science center community, Innovation Space is the embodiment of a concept intended to blossom well beyond the ASTC Annual Conference. ASTC will explore the theme of innovation over the next several years, both at conference and through ongoing professional development activities. Innovation Space will ultimately evolve into a community of practice, stimulating innovation within the ASTC community by celebrating emerging technologies, creative resources, and novel approaches to audience engagement.

Entertaining events
ASTC 2011 includes several events that offer attendees an opportunity to relax, network, and learn.

Saturday night at the Maryland Science Center, dance to a local band and enjoy regional fare, including crabcakes and Baltimore's iconic brew, National Bohemian (known to locals as “Natty Boh.”) Three floors of exhibits, a rooftop terrace and green roof, and an observatory provide the backdrop for ASTC’s signature event.

On Sunday evening, support the ASTC Diversity and Leadership Development Fellows Program at its annual dance party. Then on Monday afternoon, return to the Maryland Science Center for Big Screen Day (brought to you by the Giant Screen Cinema Association), planetarium demonstrations, and more sessions.

Brimming with charm
Baltimore is known for its quirky characters, distinct neighborhoods, unique museums, and world-renowned medical research facilities and universities. Although the city may greet visitors with its bustling Inner Harbor, vibrant nautical heritage, and state-of-the-art sports facilities, at its heart Baltimore is all about walkable neighborhoods. It’s easy to see why Baltimore is known as “Charm City.”

Thank you to our sponsors
We are extremely grateful to the organizations that have generously supported ASTC 2011:

Silver Sponsors:
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• USA Science & Engineering Festival.

Contributing Sponsors:
• Gallagher and Associates
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Sponsorships are still available; contact Katherine I. Goodall, director of institutional advancement, (202) 783-7200 x116, kgoodall@astc.org.

Register today
Register by August 26 for the Early Bird rate, at a savings of $205. Book your hotel by September 23 to receive special ASTC rates. For registration and travel details, visit conference.astc.org. See you in “Bawlmer,” hon!
New Governing Members Approved

The ASTC Board of Directors approved three science centers as new Governing Members in March.

The Connecticut Science Center in Hartford serves about 300,000 visitors each year with 150 hands-on exhibits, four educational labs, and daily events. The 144,000-square-foot (13,380-square-meter) facility opened in June 2009.

With 28 full-time staff and a $3.4 million budget, the EdVenture Children’s Museum in Columbia, South Carolina, operates a 92,000-square-foot (8,550-square-meter) facility with more than 350 hands-on exhibits.

The Wild Center/Natural History Museum of the Adirondacks in Tupper Lake, New York, has 35,000 square feet (3,250 square meters) of interior exhibit space and a 31-acre (125,450-square-meter) outdoor site, which visitors can explore with staff naturalists or on their own.

Informal Science in International Agreements

The U.S. Department of State has begun to implement a proposal by ASTC to regularly include informal science education and public engagement in science as part of science and technology agreements negotiated among countries throughout the world. These agreements lay out the overall objectives that, in turn, inform resource allocation decisions.

For example, in a press release describing a recent collaboration between the United States and China, the Department of State made specific reference to establishing programs that engage the public in science, educate young scientists, and utilize museum professionals.

We anticipate that additional agreements in the near future will include similar language, and we hope this model will be included in agreements among governments worldwide.
The Learning Labs Project

ASTC and the Urban Libraries Council (ULC) will partner to manage a new Learning Labs project supported through $4 million from the John D. and Catherine T. MacArthur Foundation and the U.S. Institute of Museum and Library Services.

Together, ASTC and ULC will support knowledge sharing among museums and libraries across the United States, with the ultimate goal of creating up to 30 new Learning Labs that will engage young people in learning through digital media.

The project was created in response to President Barack Obama's Educate to Innovate campaign to improve the performance of U.S. students in science, technology, engineering, and math. Inspired by YOUmedia (a cutting-edge space for teens at the Chicago Public Library) and innovations in science centers, Learning Labs will help youth become creators of content, not just its consumers. The project will complement the ASTC-led Youth Inspired Challenge (youthinspiredchallenge.org).

Museums and libraries may apply for grants of up to $100,000 each. For more information, visit www.imls.gov/pdf/MacArthurLabsFAQ.pdf or contact Margaret Glass, mglass@astc.org.

ASTC Connect Forum

From September 12 to 16, ASTC Connect (connect.astc.org) will host an online forum entitled “Expanding Roles for Youth in Informal Learning Experiences.” The discussion will focus on how youth are participating in informal learning experiences—as a target audience, as partners in design and development, and as content interpreters and creators.

The discussion will be facilitated by members of the U.S. National Science Foundation–funded Asteroids! project team, led by the National Center for Interactive Learning at the Space Science Institute. The centerpiece of the Asteroids! project is the traveling exhibition Great Balls of Fire!, which involved middle school youth in design, development, and evaluation.

To join the session, contact Wendy Hancock, whancock@astc.org. For more information about the exhibition, contact Lisa Curtis, curtis@spacescience.org.
Science North, Sudbury, Ontario, Canada, announced the appointment of Guy Labine as CEO, effective May 7. He joined Science North in 2001 and served as director of business development before assuming the role of COO in 2009. Labine recently completed the Noyce Leadership Fellows program. He succeeds Jim Marchbank, who began working at Science North in 1980 and became CEO in 1987. Marchbank plans to pursue part-time and consulting positions in the science center, cultural, and tourism sectors.

Dana Thorpe, former deputy director of the Association of Children’s Museums, has been appointed executive director of Building for Kids, Appleton, Wisconsin. Thorpe has more than 20 years of museum and related industry experience. She replaces Dorrie Hipschman, who directed Building for Kids for nine years. Hipschman is now executive director of the planned Cade Museum for Innovation and Invention in Gainesville, Florida, where she replaced interim executive director Richard Miles.

In February, Nancy McCrickard stepped down as executive director of the Science Museum of Western Virginia, Roanoke, to join the exhibits company Exhibit IQ. She is still working as a consultant to the museum during its renovation. The museum selected J. Andree Brooks as interim executive director in March. Brooks has an extensive background in leading local nonprofits, such as the American Lung Association of Virginia.

Justine Roberts has been appointed executive director of the Children’s Museum of New Hampshire, Dover. She succeeds founding executive director Denise Doleac, who led the museum for 21 years. Previously, Roberts was a principal in the museum architecture, planning, and exhibit design firm Gyroscope, Inc. She has also worked at the Bay Area Discovery Museum, Sausalito, California.

After three years as president and CEO, Kevin Sullivan left the Children’s Museum, West Hartford, Connecticut, to head the state’s Department of Revenue Services. Sullivan was Connecticut’s lieutenant governor from 2004 to 2007 and a state senator from 1986 to 2004. Don Peterson has rejoined the museum as interim director; he filled this same role before Sullivan’s appointment in 2007.

The Lancaster Science Factory, Pennsylvania, has confirmed Bob Herbert as its new executive director. Herbert had been serving as the science center’s interim executive director since June 2010, and had previously worked at Hersheypark. He succeeds Janet Stone, who is now a nonprofit management consultant and chair of the Nonprofit Resource Network’s marketing committee.

The Leonardo, Salt Lake City, Utah, has hired John “JD” Donnelly as the organization’s new director of operations. Donnelly brings 18 years of operations, management, and nonprofit experience to the Leonardo. Most recently, he served as head of a secondary school in Salt Lake City.

Nauticus, Norfolk, Virginia, has hired Joy A. Williams as deputy director of development and external affairs. Most recently, Williams was vice president and chief development officer of the National Marine Sanctuary Foundation. She had previously worked for Girl Scouts of the USA and the U.S. fundraising arm of the Israel Philharmonic Orchestra.

On June 6, Larry Hoffer joined ASTC as communications strategist, a newly created position. Hoffer brings 20 years of leadership experience in the areas of communications, public relations, and marketing, primarily for nonprofits and associations. He most recently served as director of marketing and communications at Universal Designers and Consultants, and previously worked for the Industrial Designers Society of America, the National PACE Association, the Brain Injury Association, and the Society for American Archaeology, among others.

Marti Cortez, senior vice president and director of museum operations at the Saint Louis Science Center, Missouri, was one of nine participants in the 2010 USA Eisenhower Fellowship program. Last year, Cortez traveled to Taiwan, Malaysia, and the Republic of Singapore for a series of meetings with leaders in each country.
Museum on the Move

By Jeffrey Maas

Museum on the Move, an outreach initiative of the Duluth Children’s Museum, brings education programs beyond our 3,000-square-foot (280-square-meter) exhibit space in Duluth, Minnesota, into area elementary schools.

Since the initiative’s launch last year, we have developed two Museum on the Move programs, each designed to adapt to individual schools’ needs. Turn Back the Clock culminates with children transforming empty classrooms into mini-museums filled with personal artifacts and historical objects from the museum. Games & Puzzles teaches math concepts as kids create original games for an all-school Play-a-thon. We are now developing a third program on the science of sound.

As we have evaluated and redefined our programs, we have learned several valuable lessons:

1. **When engaging schools, it is best to hire someone who understands school life from the inside.** After teaching in elementary classrooms for 30 years, I was hired as the initiative’s curator-in-residence. My experience has allowed me to move purposefully through the school landscape.

2. **Don’t be too specific in the curriculum content or standards you hope to address.** When we first began selecting museum artifacts for Turn Back the Clock, we found ourselves developing a long list of curriculum connections. We finally realized that the cognitive processes in which we were engaging were exactly what we wanted to duplicate in the schools. We decided not to arrive in schools with a “laundry list” of standards; instead, we transfer ownership to the teachers, who actively connect our artifacts to their curriculum.

3. **Allow for flexibility, but provide necessary structures to let spontaneity happen.** Weekly classroom sessions, including discussions and hands-on experiences, provide structure and continuity. Our biggest challenge was to come up with a management strategy to let the initiative evolve while holding true to its goals. I base my strategy on complexity theory (www.complexityandeducation.ualberta.ca/weblinks.htm), enabling me to adjust rapidly to changing contexts.

4. **True engagement is meaningful and productive over time.** When the initiative began, we didn’t think in terms of long-term working relationships. Although each Museum on the Move program can stand on its own, we now hope that by tailoring the first experience to each school’s needs and by supporting and respecting teachers, we can entice the school to continue its relationship with us.

5. **Faith in children is always rewarded.** When Turn Back the Clock begins, I enter a school’s “museum” for the first time. There is nothing but bare walls, dusty shelving, and echoes. As I work with the kids, they listen to me attentively, but bring nothing for the shelves. Days pass. Weeks. And then suddenly an onslaught of artifacts floods the room. The museum has a successful grand opening, and my worries were for naught. The creative power of children always amazes me.

Jeffrey Maas (jmaas@duluthchildrensmuseum.org) is a program developer and Museum on the Move curator-in-residence at the Duluth Children’s Museum, Duluth, Minnesota.

If you would like to write about what your institution has learned from a project in exhibit development, education, finance, and/or operations, email dimensions@astc.org (subject line: What We Learned).
Faced with the challenges resulting from the worldwide economic crisis, science centers and museums must work diligently and creatively to maintain financial viability. Many science centers are diversifying their income sources, both by adhering to time-tested best practices of fundraising and by pursuing new methods and opportunities. Especially in these difficult times, successful science centers must follow sound financial practices, carefully prioritize their spending, and above all, deepen their commitment to their missions and their communities. In this issue, we explore trends, best practices, and strategies for thriving in tough situations.
The State of the Science Center

By Katherine I. Goodall

There is no question that recent years have been extraordinarily challenging for those responsible for the financial well being of science centers and museums. Since the global economic downturn began in 2008, every revenue stream has been under threat. Some organizations have been forced to make huge cuts, while at the same time serving increasingly broad populations (AAM, 2011). Yet for many, the economic crisis has been a chance to think strategically, refocus, strengthen branding and core support, and explore new opportunities.

As ASTC’s director for institutional advancement, I’ve had the opportunity to talk about these challenges and opportunities with professionals in large and small science centers and museums worldwide. This article is by no means an exhaustive investigation of the recession’s impact on science centers, nor is it intended to suggest that every institution’s experience has been the same in the last three years. Rather, it provides a high-level overview of the complex subject of financial viability. For a deeper look at many of the topics touched on here, see the other articles in this issue.
Private funding trends
As developed economies struggled in 2008 and 2009, capital flow, tourism, and lending to the developing world dropped. According to the World Bank (Nabil, 2010), “The crisis led to a 6.5% fall in the median GDP growth rate of the Group of Seven (G7) countries between 2007 and 2009, and has had protracted effects in several low- and middle-income economies in the rest of the world.”

As seen in previous recessions, philanthropy was greatly affected, but portfolios began to rebound toward the end of 2009, and spending and donations strengthened throughout 2010 (Giving USA, 2010). There is still much debate as to whether we are truly emerging from the recession, and while signals have been mixed, there are positive trends to point to.

Corporations were quick to downsize in 2008, slashing marketing and philanthropic budgets. In the United States, many big banks received Troubled Asset Relief Program (TARP) funds from the government and lowered their philanthropic profiles. Most have now paid that money back and are re-entering the landscape. In fact, U.S. corporate giving rose nearly 6% in 2009, recouping almost all ground lost in 2007–08 (Giving USA, 2009).

In Europe, many corporations also received a form of bailout and responded similarly, but as corporate funding is the exception outside the United States and Canada, reductions did not impact science center budgets as heavily. The ideal vision for science centers, regardless of location, remains “establishing undesignated, multiyear corporate support based on the mission of the organization,” explains Andre Zandstra, vice president for development at Science World British Columbia, TELUS World of Science, Vancouver, Canada.

Meanwhile, private foundations have also seen their portfolios shrink. Many had the extra burden of multiyear commitments that they honored despite having to dip into principal, and many more slashed operating costs before reducing gifts (Miller, 2010).

Individual giving makes up the largest slice of private funding in the United States and Canada by far. While many loyal individual donors continued to give to science centers at the toughest of times, the general trend in 2008 was down (Sage North America, 2008). In the United States alone, individuals gave 10.6% less in 2008, and 14% less in 2009 than in the previous year, according to Internal Revenue Service data (Hall, 2011). However, many anticipate a resurgence in major individual gifts this year and are planning accordingly.

Chris Kramer, vice president of development, communications, and government relations at the Science Center of Iowa, Des Moines, verbalizes what many have experienced with individual giving: “Individuals are working to rebuild their wealth so they are better positioned to provide meaningful support, and we anticipate individual giving to strengthen this year.”

According to Sharon Ament, director of public engagement at the Natural History Museum, London, “Money remains tight for individual donors. We’re working to ensure that donors see us as a viable recipient and vital to societal health.”

Public funding trends
Public funding has seen threats the world over recently. In the United States and Europe, it appears that national government stimulus plans may have eased the pain somewhat at the start of the recession as private funders pulled back, but 2010 brought cuts in national funding that seem to be continuing into 2011 (BBC News, 2010, and New York Times, 2011). This year, due to declining tax revenue, local and state governments are also being forced to make difficult cuts (Johnson, Oliff, & Williams, 2011).

On average, ASTC members outside the United States and Canada reported less decrease in public funds than members in the United States. In the United States, 45% of ASTC members reported a decrease of 15% or more in public funding, whereas only 20% of ASTC members outside the United States did. On average, ASTC members outside the United States and Canada reported a decrease of 12% in public funding, whereas members in the United States reported a decrease of 18% (ASTC, 2011).

The economic crisis has been a chance to think strategically, refocus, strengthen branding and core support, and explore new opportunities.
States derive 40% of their operating revenue from public funds (versus 23% in the United States). (See Figure 1, below.) Decreases in public funding are likely to impact museums in those countries more deeply. As government-enacted austerity measures have taken hold, many cultural institutions in Europe (especially those outside major cities) have seen “their funding slashed, and now see their futures hanging in the balance” (Pilkington, Davies, & McDonald, 2010).

Asia is arguably the region least affected by the recession, and government funding there generally remains strong. For example, India’s ministry of culture allocated 17.5% of its total budget to museums in 2010–11. Still, many institutions in Asia are working to diversify and “reduce dependencies on government funding by increasing private and earned income,” according to May Pagsinohin, executive director of the Philippine Foundation for Science and Technology. Private funds remain hard to come by in India and across Asia, due to the recession and a lack of philanthropic tradition beyond religious donations, as reported in the Economic Times (2008). Like many museums across Asia and the Middle East, “science centers in India are concentrating on increasing attendance and finding well-trained staff,” says G.S. Rautela, director general of National Council of Science Museums, India.

Looking at earned income
The earned income sphere probably paints the rosier picture of museum financial health. Science centers have always led museums generally in admissions revenue, with 96% of U.S. science centers charging admission, compared with 54% of art museums (AAM, 2009). In 2010, earned income increased for ASTC-member institutions in the United States and across the globe. (See Figure 2, opposite.)

Worldwide, museums of every type saw increased attendance in 2010 (AAM, 2011), despite tougher competition for a smaller amount of money. This may be because museums offer an escape from stress, or perhaps because we now live in the technological age and, as William Harris, senior vice president of development and marketing at the California Science Center Foundation, Los Angeles, points out, “We’re social animals—and time with technology can isolate. Science centers bring people together

**Figure 1**

**Operating Revenue Sources**

- **U.S. (n=113)**
  - 48% earned income
  - 24% private funds
  - 23% public funds
  - 5% endowment income

- **Other countries (n=39)**
  - 42% earned income
  - 17% private funds
  - 40% public funds
  - 1% endowment income

Source: The ASTC Statistics Survey, 2010

Ensure you have a diverse portfolio, making sure not to rely too heavily on one type of revenue or funding.
in a physical space that touches on the essence of being human.” Cindy Ball, director of development at the Ontario Science Centre, Toronto, Canada, adds that centers “remain fun, safe, affordable places for people to go and connect with each other.”

However, some science centers rely too heavily on earned income (sometimes as much as 80% of their operating budgets). This segment could be in trouble should visitation drop precipitously due to factors such as rising gas prices or fear of terrorism. Increasing philanthropic support for this group is essential.

Increasing value for visitors
In these difficult times, many I spoke with have focused recently on improving their value proposition to retain members and encourage repeat visitation.

Some have surveyed their members and guests, and consequently adjusted their membership benefits. Many have enhanced programming and increased the number of floor staff, while ensuring that all staff members are welcoming and reflective of the community.

Ament reports that the Natural History Museum has been heavily focused on providing the highest quality visitor experience, through “excellent science, discovery packs for kids, films, live nature demonstrations with scientists, and public debates—all for free.”

This focus is not overlooked by smaller centers. Bob Herbert, executive director of the Lancaster Science Factory, Pennsylvania, explains their “emphasis on tailored visitor experiences, like providing for Cub Scout and Girl Scout science badges, summer camps, birthday parties, and sleepovers” is a critical part of their strategy to engage the community.

Walter Lukens, president of the Lukens Group, suggests, “In this environment, discounting strategies work particularly well for folks looking for value. Strategies that allow people to apply ticket prices to membership work, too.”

Learning in difficult times
One of the silver linings to the downturn is the opportunity for our own education—or re-education—when it comes to revenue sources. Three key lessons learned are:

1. Diversification. Ensure you have a diverse portfolio, making sure not to rely too heavily on one type of revenue or funding.
2. **Branding.** Create a strong and honest brand:
   - Know your audience.
   - Ensure that your mission and vision are clear and inspirational. What do you do that no one else does? Be able to articulate your top three organizational priorities in your messaging.
   - Express the importance of supporting the museum’s mission in as many communications as possible.
   - Know your competition.
   - Have a great website (this is no longer optional) and stay current with trends in online and mobile giving. (See the sidebar on this page.)
   - Collect data and use it to evaluate your programs, visitor experience, etc., and report meaningful metrics to funders.

3. **Investment.** Finally, and perhaps most importantly, science centers have learned that they must invest in fundraising and marketing or risk irrelevance. Being financially viable is inextricably linked to achieving one’s mission, not separate from it. In order to be poised to take advantage of the eventual turnaround, institutions must make sure their relationships are strong—with funders, partners, members, and visitors. The most valuable investment (and seemingly the hottest commodity these days) is time. And the trick, it seems, is finding enough time to spend, truly listening and engaging, with existing and potential relationships.

**REFERENCES**


**EMERGING FUNDRAISING TRENDS**

**Online fundraising**

A recent study by the Network for Good (bluetoad.com/display_article.php?id=658113) shows an annual increase in online giving of 56% every year since 2003. Online giving to smaller organizations has grown exponentially compared with giving to larger ones, according to the Blackbaud Index of Online Giving. Yet, according to the Philanthropy Journal, “[N]ew fundraising and communication channels, though growing, are not replacing traditional channels.”

Despite the different medium, fundraising online is still about relationships. The Network for Good study reports, “The more intimate and emotionally coherent the [online giving] experience, the stronger the relationship between donor and nonprofit appears to be.”

The study also concluded that online giving is strongest via an organization’s website, but giving portals and social media are useful for reaching new donors. Many donors like to give recurring (mostly monthly) gifts online. Make sure it’s an option on your website.

**Mobile fundraising**

Reaching donors via text message is only a viable option for large organizations. About 2% of the target audience will likely donate this way in $5 and $10 amounts, so you need a large pool of potential donors. Also, you will have to pay fees, meet minimum annual revenue limits, and wait up to three months to see the money arrive.

QR codes are a simpler way to connect with mobile users. When scanned with a mobile device, they take a potential donor directly to your website. You can generate a free code at qrcode.kaywa.com.

**Robot fundraising**

The University of Dundee in Scotland and others have been experimenting with on-the-street fundraising via robot. After nine hours, “Don-8r” raised a modest $43 for the Dundee Science Centre, so don’t alter your strategy around this one just yet!

—K.I.G.
Strategies for Financial Health

By Charlie Trautmann and Lara Litchfield-Kimber

Remaining financially healthy during tough economic times is hard work. With recent reports of resizings, downsizings, reorganizations, and museum closings, how can we inoculate ourselves against economic malaise?

The Sciencenter in Ithaca, New York, is a small museum with 10,000 square feet (930 square meters) of indoor exhibits, an annual attendance of 100,000, a staff of 27, and a budget of $2 million. Over the years, we have experimented with various strategies to improve our financial health. Some have worked and others haven’t, but our approach has achieved a 25% growth in staff during the past three years; the ability to offer a bonus and a 2.5-3% raise each year for the past two decades; and a year-end operating statement in the black since 1989 (except in 2008, when investments dramatically declined).

In the spirit of “an ounce of prevention is worth a pound of cure,” we offer six financial strategies—our “F-vitamins”—which have helped us get through tough times.

Free public events—such as this tour of a model of the solar system by Bill Nye, the Science Guy (center, in the hat)—can help science centers be valued and then supported by their communities. Photo courtesy the Sciencenter
Vitamin F1: Diversify income sources.
We once believed that finding a “silver bullet,” such as state funding, a federal earmark, or a blockbuster exhibition, was the way to balance our budget. Now, however, we aim for a diverse portfolio with four to six main sources, none representing more than 20–30% of total income. Our current mix (as of 2009) is shown in the pie chart on the opposite page.

Vitamin F2: Minimize debt.
Debt is a scourge for museums. Unfortunately, boards sometimes forget that debt payments come from annual fundraising, not operating surpluses. Cavalier decisions can saddle future directors with debt, sometimes for decades. We learned the hard way that fundraising after a building’s completion doesn’t work, because no one donates after the opening. Furthermore, when times get tough and income drops, debt payments don’t. So we stopped using long-term debt, even when it meant constructing less than we wanted and building what we could afford in phases.

Vitamin F3: Think long term.
Because we seek to leave behind an institution that is financially viable in perpetuity, we started an endowment when we opened in 1993. When we receive an unexpected donation, we generally put a portion into our annual fund, issue a special bonus to staff (to acknowledge that their efforts led to the donation), and invest most in the endowment. The fund now equals our annual budget; our five-year goal is to double it to provide 10% of operating revenue.

Vitamin F4: Use accounting principles to your advantage.
If you get U.S. federal grants, the government pays overhead, or indirect costs, using the ratio (indirect costs) / (direct costs). Rented space is considered a direct cost and reduces the ratio, but depreciation of buildings and exhibitions is considered an indirect cost and increases the ratio. Therefore, we aim to own and depreciate all our assets to maximize indirect cost recovery.

Vitamin F5: Focus on the triple bottom line: environment, society, and economy.
We take a broad view of the bottom line and include the indirect benefits from environmental and social investments. For example, we began buying 100% renewable wind-generated power a few years ago as the right thing to do; an environmentally conscious $500-per-year donor responded by increasing her annual gift to $25,000.

We invest heavily in staff. We typically send one-quarter of our staff to the ASTC Annual Conference. We use a quarterly staff climate survey to improve working conditions and have developed a reputation as a preferred employer. This has helped us to recruit a talented team that works well together, innovates constantly, and provides great visitor service, which promotes attendance through good word.
of mouth. Other benefits include reduced turnover, lower recruitment and training costs, and frequent offers to partner on grants.

We also strive to build goodwill in our community—offering free membership to families eligible for free or reduced lunches, serving as a United Way Pacesetter organization, and providing free field trips to all 900 second graders in our county—which leads to donor support.

**Vitamin F6: Nurture a top-notch finance committee.**

Ours includes a college controller, tax accountant, retired corporate CFO, and banker. The committee meets monthly and digs deeply into the numbers, regularly suggesting ways to enhance our financial viability.

In summary, maintaining financial health is an ongoing process of regular hygiene and good habits. Though the financial vitamins we describe can be tough to swallow, most get easier over time. We focus on using them for tactical decisions, because, to paraphrase the famous self-improvement expert Dale Carnegie, “Take care with small decisions, and the bigger ones will take care of themselves.” That is, use small decisions to develop good habits, and better decisions on big issues will come naturally.

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Reducing Expenses While Increasing Value

By Gerardo Ibarra Aranda

Founded 16 years ago, Centro de Ciencias Explora in León, Guanajuato, Mexico, is committed to operating in an efficient and financially viable manner. A main feature of our organizational culture involves streamlining operations and controlling expenses, while simultaneously maximizing the visitor experience.
Sources of income

Nearly 80% of Mexican science centers and museums are public institutions or part of a university, and depend on subsidies for 53–100% of their income. Although Explora is a public science center, we rely less upon subsidies and more upon earned income than our colleagues. Our board of trustees, consisting mainly of business executives, has inspired us to aim for high self-sufficiency.

In 2010, Explora supported 50% of its 2010 operating costs (USD 2,583,089) through earned income from ticket sales, traveling exhibition rentals, and consulting and other services—making us the only public science center in Mexico to surpass the national average of 47%. An additional 49% of our 2010 operating budget was supported by subsidies, mainly from local authorities, with less than 1% coming from private donations.

Determining priorities

Because of our reliance upon earned income, we carefully prioritize our spending with the goals of creating the best possible visitor experience and encouraging repeat visitation.

Explora has implemented several inexpensive information systems, developed specifically for us, to help determine visitors’ most important needs. The following systems are two of our most successful:

1. The Voice of the Visitor system provides daily results from user satisfaction surveys. Visitors tell us about their general experience, what they’ve learned from their visit, how well exhibits are functioning, and their opinion of the quality of service from staff.

2. In the Out-of-Service Exhibits Follow-up system, a computer code reports whether each of our exhibits is functioning well, operating below optimal levels, or not functioning. It also determines the type of error an exhibit is experiencing.

The information from both systems helps us decide if resources should be used to train staff, repair or replace specific exhibits, change the activities in our halls or workshops, or even create an entirely new hall. In this way, we can ensure that our financial resources will be used where they will have the greatest positive impact on visitors.

Another priority is serving school groups, which made up 30% of our 174,000 visitors in 2010. Our Department of Marketing offers personalized educational services that are “tailored” for each school. Teachers may choose the topics they
A boy explores the Bernoulli exhibit in the Movement Hall. Photo courtesy Gerardo Ibarra Aranda

want to explore, and classes may participate in simple, but effective, hands-on workshops to reinforce learning. We also offer English-language tours by request. These options increase repeat visits by public and private schools while ensuring a different experience every time.

No less important is the renewal of the contents of the halls; without this, our tailored programs are doomed to failure. From 2000 to 2010, Explora has obtained a total of USD 3,867,361 for improvement and development of new projects, mostly from state (90%) or municipal (7%) government sources.

By using the above-mentioned strategic actions, Explora managed to stay afloat during a difficult period last year. Because 2010 marked the 100th anniversary of Mexico’s revolution and the 200th anniversary of its independence, the federal and state governments invested funds to take public school students to historical sites, rather than to science centers and museums.

Diversifying income sources
Each year, there is less money available from the government for renovation projects. We recognize the need to increase and diversify our income sources to remain financially viable in the future. We will begin to enhance our earned income by hosting technological conferences. We’re also working to increase private donations to meet our operational and renovation needs. In addition, we’re asking principal industries in the state to partner with us to bring more people to explore, and classes may participate in simple, but effective, hands-on workshops to reinforce learning. We also offer English-language tours by request. These options increase repeat visits by public and private schools while ensuring a different experience every time.

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Rebuilding After a Natural Disaster in the Philippines

By May Pagsinohin

Late afternoon, September 25, 2009: The management team of Philippine Science Centrum (PSC) in Marikina City, Metro Manila, proudly presented to their board the science center’s recent activities. Major accomplishments included the launch and public opening of the Bioethics Gallery, the installation of seven new exhibits in the Space Gallery, and the simultaneous display of PSC’s four traveling exhibitions in different parts of the country.

Late afternoon, September 26, 2009: Only 24 hours later, the atmosphere at PSC could not have been any more different. Typhoon Ondoy (internationally named Ketsana) had hit the Philippines and caused, without warning, flash floods in Metro Manila. All of our recent additions and old-yet-treasured exhibits were submerged in murky water.

The only shining moment on that fateful afternoon was when five PSC staff members—who had become trapped in the building after ushering 150 students to safety—escaped as the flood waters rose to nine feet. They managed to open the locked glass doors, already in deep, muddy water, and swim out to the stairs leading to the second floor. There, they spent the night—soaked, hungry, tired, and shocked.

Morning, September 27, 2009: All members of PSC’s management team, some of the board of trustees, and most of the staff went voluntarily to PSC, saw the severe damage, heard the five survivors’ stories, and immediately started the first steps of rebuilding.

November 3, 2009: Less than six weeks later, PSC reopened to the public with 70% of its interactive exhibits repaired and reinstalled. Exhibits from one of our traveling exhibitions filled the remaining space.

As Meneleo J. Carlos, Jr.—chairman of the Philippine Foundation for Science and Technology, of which PSC is one project—reopened PSC, he assured the public that the science center would continue to operate and be a source of engaging, relevant learning.
How did we cope with the challenges of rebuilding PSC and sustaining its operations? Together, PSC’s 25 employees turned off the crisis mindset and hit the organization’s “reset button,” using the difficult situation as a base to build on. We tried to regard the experience of the typhoon as a stepping stone to attain new heights.

A stable financial base
First opened in 1990, PSC had already experienced an earthquake, used three temporary residences, and faced financial crisis on several occasions in its history. Two major actions were taken in the mid-2000s that turned around PSC’s finances. First, we produced four traveling exhibitions to increase revenue. Second, we converted our exhibit development and fabrication unit into a separate entity to make it commercial, opening its doors for local and international clients.

With government grants, funding from private companies, and funds from admission sales and traveling exhibitions, PSC’s financial inflow in 2008 and the early part of 2009 had been steady. In addition, we had not undertaken any major building renovations during that period. Therefore, when the typhoon hit, we had internal funds readily available.

Launching a fundraising campaign
Knowing full well that our funds would be depleted, we launched a fundraising campaign called Project 926 with the goal of raising 9 million Philippine pesos (about USD 210,000) in two ways (cash and in-kind assistance) within six months. The campaign’s name symbolized the date (September 26) that the typhoon swept through, as well as the fundraising challenge it gave us. Our campaign reached 92% of the goal in the six-month period.

The primary targets for fundraising were PSC’s existing sponsors, partners, and friends within and outside the country. We also targeted our three remaining traveling exhibitions (the fourth being on display at PSC’s reopening) to increase our audience numbers, which would be vital to our financial viability over the coming months.

The science center community
Being an active member in science museum associations and regularly communicating with their directors contributed to the assistance PSC received from science centers and museums in the Asia-Pacific region and the United States. For example, the Exploratorium, San Francisco, donated exhibit cookbooks and other reference materials to our exhibit development and fabrication unit. The California Academy of Sciences, also in San Francisco, donated a coral reef kit that has been used by our outreach programs. The Marian Koshland Science Museum of the National Academy of Sciences, Washington, D.C., provided the blueprints to allow us to replicate their
exhibition on infectious diseases, *Where Are They?*

In addition, in early 2009, we had received accreditation from the Ayala Foundation USA (renamed the Philippine Development Foundation, or PhilDev, in 2010). This U.S.-based charity assisted PSC’s fundraising efforts in the United States by becoming a channel for donations from ASTC, its member institutions and their employees, the Noyce Foundation, and Noyce Leadership Institute faculty and fellows with whom I worked in 2009–10 as a Noyce Leadership Fellow.

We also received cash donations from the Asia Pacific Network of Science and Technology Centres (ASPAC) and the Macao Science Center, Macao SAR, China, among others. Locally, several of our collaborators in science education, including the Science Education Institute and the Mind Museum, both in Metro Manila, and the Cebu Children’s Museum gave cash donations to PSC.

February 10, 2010: Four and a half months after the devastating typhoon, PSC celebrated its 20th anniversary fully restored. Given our recent and earlier experiences with natural disasters, we had even added two new exhibits on natural phenomena. Feel the Shake simulates an earthquake, and the Wind Zone simulates the strong winds of a typhoon. The exhibits include information about how these phenomena form and what to do when they occur.

All of us at PSC feel honored that we had the opportunity to help the facility move through the stages of difficulty, transformation, recovery, and new beginnings.

**Reopening quickly**

During my Noyce Fellowship, one of the lessons I learned about fundraising was that “people give not because you have needs, but because you meet needs.” This lesson inspired us to work toward reopening quickly, so we could continue our mission of meeting the community’s needs for science education. As a partner of the Department of Education, PSC plays a crucial role in upgrading the level of science education in the country.

When word got out that PSC had reopened so soon after the disaster, we received even more assistance from both local and international organizations. Three of PSC’s major partners, IBM Philippines, Electrobus Consolidated, and Manila Electric Company, committed to replacing damaged equipment and exhibits that they had previously provided.

The quick restoration played a vital role in sending the message that PSC was serious about continuing its mission.

**A dedicated staff**

The challenge of rebuilding was made easier by PSC’s team of dedicated staff backed by a supportive board of trustees. Everyone focused on responding positively and turning the crisis into an opportunity for improvement.

A three-person team ran the fundraising campaign, while the other 22 staff members worked double time to clean up the facility, inventory items that had been scattered by the typhoon, and repair both the facility and its exhibits. These tasks were accomplished with great energy, positive attitudes, and a sense of urgency, all of which made a significant difference to our rebuilding process.

**May Pagsinohin** (maypagsinohin@pfst.org) is executive director of the Philippine Foundation for Science and Technology and managing head of Science Centrum Fabrication Inc.
A well-managed membership program can and should contribute to financial viability, particularly in challenging times. When I began overseeing the membership program at Pacific Science Center, Seattle, in January 2008, I found that we had a lot to offer, but some fundamental aspects needed improvement. Members were treated as transactions rather than donors, and best practices for museum membership—a strategic approach, stewardship, communications, and infrastructure—had not been implemented. If we could overcome these two challenges, the program had great potential.

We did overcome them, and from October 2010 to April 2011, our membership grew by 60% (11,000 new members). This fiscal year (ending June 30) general membership revenue will total $2.5 million, approximately 10% of the annual operating budget and a significant component of the total revenue mix.

Building a Strong Membership Program
*By Shannon Schumacher*

**Understanding the past**
We began by analyzing the membership program’s history and prioritizing our efforts. In 2000, membership peaked at 40,000 members, but by 2008, it had declined to 18,000 members, largely due to ineffective member stewardship, price increases, and reduced benefits. To reverse this trend, we unpacked the program by component and reconstructed each one. The areas of focus included acquiring new members, building relationships with members, and retaining members.

**Acquiring new members**
Attendance is a key driver. The target audience must be interested in visiting, so an institution needs a strong exhibition schedule. In 2010, we had two popular exhibitions, *Harry Potter: The Exhibition* and *Star Wars: Where Science Meets Imagination*, which put us in a position to implement several strategies.
First, we reinstituted direct mail acquisition, which highlighted new exhibitions along with member benefits. We sent our direct mail to nonmembers, lapsed members, and current members with possibilities for upgrading membership.

Next, we focused on on-site sales, which are effective because they target an audience already interested in the institution. Prior to 2008, only 1.4% of our visitors converted to members, yet similar institutions managed 4–7%.

We initiated comprehensive sales training for front-line staff, added a sales incentive program, and opened a members-only entrance. We also initiated a sales strategy that focused on the $250 level that includes film passes; this strategy proved successful for acquiring new members and upgrading current members. With these changes, we improved average sales per member from $85 to $92, and the visitor-to-member conversion rate rose to 5%.

**Building relationships with members**

A strong membership program leads to a thriving culture for philanthropic support. Most major donors start their relationship with an institution as a general member. Therefore, we build a relationship with a member just as we would with a donor. To do this, we improved communication and stewardship so members would feel valued and would actively participate in programs and activities. Communicating through multiple channels is most effective; we use email, web, mail, newsletter, and phone.

Offering great benefits and reminding members about opportunities to use them helps to build relationships, too. Not all benefits are expensive. For example, we offer members-only previews for special exhibitions and have a website feature where members can reserve film and exhibition tickets.

Decision makers are often concerned that the institution may be giving members too many benefits. Measuring the actual use of benefits (members rarely use all entitlements) can help to discern the right balance between an apparent value proposition and the actual cost to the institution. Also, it is important to remember that members have already paid; they aren’t receiving free benefits.

**Retaining members**

The cost to acquire new members is significant; the cost to retain them is far less. To improve member retention, we increased the number of renewal notices we send. When a membership is nearing expiration, we now send up to four renewal letters and two emails. (Previously, we sent just two letters.) Multiple reminders are highly effective at increasing renewals, as is using multiple channels.

We redesigned our materials, added an insert highlighting upcoming exhibitions, and included low-cost incentives to renew by a certain date. To learn which elicited the most responses, we tested designs, package sizes, and offers by splitting our mailing list and sending each group a different version.

When we began, our renewal rate was 45–50%, and it is now at 75%.

**Measuring effectiveness**

To measure our program’s performance and impact, we established a baseline to compare data as we implemented our strategies. We developed a one-page dashboard report of key metrics, sent weekly to staff leadership. The report includes: revenue by month and year, including the previous four years; total members; renewal rates; percent of revenue by sales source (web, phone, on-site, etc.); and conversion rates.

We have worked hard to create a member- and donor-centric culture at Pacific Science Center, resulting in increased short-term revenues and a foundation for long-term benefits, as well as a pipeline from which to develop major supporters.

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How to Ask for (and Get) Major Gifts
By Simone P. Joyaux

According to Giving USA, individuals give between 80 and 90% of charitable gifts—far more than foundations and corporations combined.

So how do you raise gifts from individuals? First, you ask. Yes, the biggest reason anyone gives is because they are asked. And the best way to secure a major gift from an individual is a face-to-face request by the right person at the right time for the right project at the right amount.

Here are some guidelines for effective major gifts solicitation, which I have developed based on my 36 years of experience in the nonprofit sector. Remember, the definition of a “major gift” depends on the donor’s perspective, not your organization’s perspective.

1. Pick the right prospects.
Match a donor’s interests, motivations, and aspirations. Ask your volunteers to help identify those who are predisposed to give to you.

2. Explain why gifts matter.
Tell donors why their gifts matter and how they can make a difference. Tell a good story about real people who are helped by your organization.

3. Recruit volunteer solicitors.
Volunteers are often the most appropriate solicitors to ask for charitable gifts. But of course, to have credibility with prospects, these volunteers must have already given their own personal gift to your organization.

4. Remind your solicitor to engage the prospect.
The face-to-face meeting is a conversation, not a presentation. Your solicitor should listen and pay attention to the prospect’s body language.

5. Have your solicitor ask for a specific amount—and secure a promise.
During the meeting, your solicitor should use the phrase: “Would you please consider a gift of _____?” Aim as high as possible, and address barriers before the donor brings them up. Picking the right amount to ask for is both science and art.

Your solicitor will try to get a commitment before closing the meeting. Don’t leave a gift envelope with the prospect without a specific amount pledged. If the prospect wants more time to decide, the solicitor should follow up personally.

6. Acknowledge the gift.
Staff should send an acknowledgement letter (with a gift envelope enclosed) to the prospect as soon as the solicitor reports that a pledge has been made.

7. Nurture the donor relationship to build loyalty.
Donor loyalty is the most important thing in fundraising—even more important than acquiring new donors. And in a tough economy, relationships are more important than ever before. Retention rates are staggeringly poor, and loyalty is not what it used to be.

Show genuine interest in and respect for your donors. Earn their trust by reporting on your accomplishments and efficiency. A donor’s relationship with your organization deepens or frays mostly based on how much trust you can create.

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U.S. nonprofit organizations have long benefitted from the largesse of the for-profit sector. In 2009, corporations donated more than $14 billion to U.S. charitable causes, and the corporate sector has proven especially fruitful for science centers. Many centers—including the Franklin Institute (TFI) in Philadelphia, where I oversee external affairs—have long counted on their region’s leading utility, technology, and pharmaceutical companies to be among their top donors.

In an era of shrinking profits and an expanding focus on accountability, however, the face of corporate giving is changing dramatically. Rapidly disappearing are the days in which corporations give simply because it is the “right thing to do.” In this traditional corporate citizenship approach, companies trust their nonprofit partners to apply funding as they see fit.

While this model continues to be mutually beneficial, there is a growing trend toward a new corporate social responsibility model, where the company sees itself as an active partner. Companies determine priorities, often tied to corporate objectives, and help carry out specific program goals. They expect measurements of the impact of their giving that are as sophisticated as those they apply to business investments.

Adapting to a new model
Science centers are left with two options: adapt, or lose out on this vital funding source. Many nonprofits are hesitant to enter such uncharted territory for fear that new programs will supplant operating support. In fact, active partnerships—by engaging corporations and generating measurable outcomes that support corporate priorities—can actually increase the company’s commitment to funding more traditional fronts.

Great Opportunities Through Active Corporate Partnerships

By Larry Dubinski
Apprehension about ceding “control” to corporate partners is another stumbling block. Critical to overcoming this is transparency; each science center must determine its level of comfort with corporate involvement and be clear about limits, up front. Most companies will work in good faith within these guidelines.

Two successful partnerships
TFI is in the midst of two such partnerships that highlight the possibilities of this new paradigm. Both have produced fantastic outcomes and, importantly, have only augmented the traditional support from each company.

PECO, an Exelon Company, is the Philadelphia region’s leading utility company and TFI’s most long-tenured and generous corporate partner. The company has traditionally provided us with significant general operating support, and in 2008, PECO asked us to partner in creating an environmental education program.

The PECO Energizing Education Program (PEEP) provides teacher training, lesson kits, classroom enrichment, a school energy audit, and field trips for more than 30 middle schools over three years. This successful ongoing program combines the resources and expertise of PECO, TFI, and the U.S. National Energy Education Development Project, and is impacting the environmental education of thousands of schoolchildren.

In 2004, PNC Bank, another outstanding and generous longtime supporter of TFI, launched Grow Up Great, which focuses on school readiness for preschoolers. Partners on this 10-year, $100 million program include Head Start (a U.S. program serving preschoolers and families facing multiple risk factors) and Sesame Workshop. Recently, PNC encouraged us to develop early childhood education programs that would align with our mission of informal science education.

The resulting three-year partnership has provided professional development in preschool science education for Head Start teachers, as well as museum visits and classroom outreach for hundreds of Head Start toddlers and families—visits during which PNC employees serve as mentors. While this younger audience, following PNC’s priorities, is new for us, the objectives directly connect to our mission.

Best practices
What best practices can be gleaned from these partnerships?

1. Work backward from the company’s stance to find common ground. Don’t approach new partnerships with your traditional “menu” of opportunities. Customization for each company’s mission and goals—while time-intensive—is crucial.

2. Be willing to employ company resources beyond funding. Embrace the corporation’s internal experts and resources in order to engage the company and maximize the program’s efficiency and efficacy. The more engaged the corporate partner, the more likely it will be to reinvest.

3. Embrace data. Know the economic and social impact of your science center. Ask the partner what kind of evaluative data they desire, and create assessments that can provide it.

4. Know when to say no. Artfully designed partnerships will meet both company and science center goals without detracting from core mission. The best will provide substantial operating support through funding overhead or staffing costs. Be wary of creating programs that are tangential to your mission or that do not offer such benefits.

5. Finally, recommit to fundraising best practices. While the rules of the game are changing, the players are not. Fundraising remains a people business. Diligent identification, research, cultivation, solicitation, and, most importantly, stewardship are more important than ever. Companies will turn to their most trusted partners when new funding is available. The dexterity with which science centers manage new partnerships will augment future giving opportunities, creating a cycle of ongoing support.

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Guidelines for Planning Grant-Funded Projects

By Robert L. Russell

Can grants help increase your science center’s financial viability in challenging times? The answer is yes, provided you ask the right questions to evaluate potential projects and then plan and manage a grant-funded project effectively. If it isn’t well planned, the project may stray from your organization’s mission and may even lose money.

One aspect of my career has been consulting on project planning, grant development, and project evaluation for science centers, associations (including ASTC), and other organizations. I’ve developed many successful grant proposals submitted to federal agencies in the United States.

Evaluating potential projects
Ask these questions to find out if a potential project is “right” for your organization:

- Does the project target your organization’s audience, and will it address their needs?
- Can you identify the project’s key stakeholders and their interests in it?
- Can you identify and mitigate key risks or barriers to project success?
- Does your organization have the expertise, facilities, and resources to do the project?
- Does the project relate strongly to your organization’s mission?
- Does the project fit with your organization’s long-range plans?
- Does the project have strong support from your organization’s board and CEO/director?
- Can your organization make a long-term organizational and financial commitment to the project?
- Have you planned for financial support after grant funding ends?

If the answer is unclear or “no” to any of these questions, your organization should make adjustments so the answer becomes “yes” or should seriously consider abandoning the project.

Planning a financially successful project

1. Plan for the future. Think strategically about the project’s future beyond grant funding. Can an exhibition increase attendance? How will you fund exhibit maintenance? Can an education project generate its own operating revenue?

2. Budget for a project’s true costs. Exhibits and projects require staffing, space, marketing, and other items that cost money.

3. Ask for indirect cost support. Projects require office space, accounting services, support staff, utilities, and perhaps other support not provided by a grant. Ask for indirect cost support when funders allow it, or reflect these costs as direct costs if the funder doesn’t allow an indirect cost line. Without these funds, the project will cost money you don’t have.

4. Ask for the right amount. Base the grant budget on your organization’s prior experiences, or seek estimated cost information from colleagues or elsewhere. Don’t “lowball” your budget to increase your chances of getting funded. If you get the grant, you won’t be able to deliver. Don’t “pad” your budget, either. Expert reviewers can usually spot poorly designed budgets.
5. **Keep track of the money.** Make sure your organization has accounting procedures to ensure that grant funds are used appropriately and in compliance with the funder’s reporting requirements. If you don’t, you may have to give the money back!

6. **Evaluate performance.** Most funders require project evaluation. Use the evaluation to help you track project performance and do an even more effective job.

**How can a grant go wrong?**

When I was a young and inexperienced museum director, I wrote a successful U.S. National Science Foundation grant proposal to support science outreach to Latino and African-American students. It was an exciting project: a “space shuttle” bus to bring students to the museum, “mini” science museums in community centers, and various off-site projects.

But I didn’t ask for indirect cost support and failed to plan for the future. While the immediate educational impacts were positive, the project cost time and money that we didn’t have. It didn’t last long after grant funding ended because we didn’t have a good business or fundraising plan to sustain it. Finally, while the project fit with our mission, it was not a well-articulated part of our strategic plan.

**Grant-seeking strategies**

Science centers that consistently receive grants are always “in the game.” Think of the Exploratorium in San Francisco; the Sciencenter in Ithaca, New York; Città della Scienza in Naples, Italy; or Heureka in Vantaa, Finland. Organizations like these are constantly monitoring potential sources of grants, determining how well these opportunities fit their strategic priorities, and submitting a stream of proposals. The same project may be submitted to multiple funding sources or resubmitted if the first application was unsuccessful (and reviewer critiques can be addressed). In short, grant-seeking is an integral and ongoing part of how these successful organizations operate.

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**The Catalog of Federal Domestic Assistance**  
(CFDA: www.cfda.gov)  
Information on grant and loan projects administered by U.S. federal agencies

**The U.S. Government’s Nonprofit Gateway**  
(www.firstgov.gov/Business/Nonprofit.shtml)  
Search federal agency webpages

**The Foundation Center**  
(foundacioncenter.org)  
Free and fee-based online funding resources (global)

**Research**  
(www.researchresearch.com)  
Links to science research and education funding sources (Africa, European Union, United States)  
Funds for NGOs (www.fundsforngos.org): Lists funders of nonprofit projects in developing countries.

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Miami Science Museum, Florida, has received a $35 million commitment from Patricia and Phillip Frost to support the construction of a new museum building. The new museum will be named the Patricia and Phillip Frost Museum of Science. The funds will be added to the $25 million already raised from a broad cross-section of individuals and corporations, as well as $175 million from Miami-Dade County’s Building Better Communities Bond Program and other government sources.

In April, Google awarded $12 million in grants to seven museums, including six ASTC members:

- **California Academy of Sciences**, San Francisco: $2 million create a new exhibition on biodiversity and human health, scheduled to open in 2014.

- **Exploratorium**, San Francisco: $2 million to support the Exploratorium’s future home, which will double its space—including exhibit areas both indoors and outdoors—and triple its capacity for teacher development.

- **Museum of Mathematics**, New York City: $2 million to support the development of the museum (scheduled to open in 2012) as well as the creation of hands-on math exhibits that will be shared with museums around the world.

- **Museum of Science**, Boston: $1 million, which may be used to develop an exhibition on computer science. One version of the exhibition would tour, while some components would be duplicated and installed in the museum’s permanent exhibition galleries.

- **Museum of Science & Industry**, Chicago: $1 million to the museum’s Science Rediscovered capital campaign, which supports its endowment, Center for the Advancement of Science Education, and new exhibits.

- **New York Hall of Science**, Queens: $2 million to help launch the new Global Science and Technology Initiative to engage the public in understanding the global nature of science through games, “citizen scientist” mobile apps, and a new exhibition.

The Denver Museum of Nature & Science, Colorado, has been awarded $3.27 million from the U.S. National Science Foundation. The funds will support the museum’s Urban Advantage Metro Denver program, a partnership between three public school districts and three science-based cultural institutions, designed to improve science literacy among middle-school students in the Denver metro area.

The Children’s Museum of Indianapolis, Indiana, has received a $1 million grant from the Eli Lilly & Co. Foundation to support underwater archaeology expeditions to the Dominican Republic, allowing the museum to exhibit a 310-year-old cannon and other artifacts recovered from the wreckage of the ship the Cara Merchant.

The Long Island Children’s Museum, Garden City, New York, has received a three-year, $150,000 grant from energy delivery company National Grid to support two programs. The first program, Westbury School District Science Partnership, enables teachers to teach science curriculum through multiple visits to the museum. In the second program, Green Teens, high school students develop and teach interactive nature and environmental education programs for museum visitors.

The Balboa Park Online Collaborative, San Diego, California—which includes ASTC members **San Diego Natural History Museum** and **Reuben H. Fleet Science Center**—has received $100,000 from the Joan and Irwin Jacobs Fund of the Jewish Community Foundation for hardware and labor costs for its wireless network infrastructure project.

As part of the Save America’s Treasures grant program administered by the National Park Service, the **National Museum of Natural History, Smithsonian Institution**, Washington, D.C., has been awarded $96,783 to conserve and prepare biodiversity field books and expedition journals. The **Schenectady Museum**, Schenectady, New York, has received $25,735 to preserve Thomas Edison’s tinfoil recording.

On May 10, the U.S. National Science Board awarded its 2011 Public Service Award to the **Exploratorium**, San Francisco. The Exploratorium was honored for its contributions to increasing public understanding of science and engineering.
Michael Specter

Interviewed by Joelle Seligson

The science writer and ASTC 2011 speaker on denialism, vaccine phobia, and why organic food won’t save the world

In the face of today’s massive organic movement, Michael Specter lauds synthetic drugs and genetically modified foods. Specter, staff writer at the New Yorker and author of the 2009 book Denialism: How Irrational Thinking Hinders Scientific Progress, Harms the Planet, and Threatens Our Lives, does not factor political correctness into his crusade to conquer fear with facts.

Here’s a taste of what he’ll discuss as a featured speaker at the 2011 ASTC Annual Conference in Baltimore, hosted by the Maryland Science Center, October 15–18 (conference.astc.org).

Aren’t we supposed to “go organic”? Is that written down somewhere?... I buy [organic food] because it tastes good. I buy it because I’m a rich Western person. I don’t think it’s going to be very useful to a lot of people who have no protein and are going to bed hungry every night.

But what about the stories of people who have gotten sick from pesticides or new vaccines? Aren’t we better safe than sorry? Yeah, we are better safe than sorry, and if we choose not to vaccinate ourselves, then hundreds of millions of people can die... So, you don’t want to vaccinate your kid? It’s fine with me; just keep your kid away from my kid.

What is “denialism”? Denialism is a refusal to accept factual reality and a clinging to beliefs that make you feel more comfortable in the face of lots of evidence to the contrary. It’s hurting science and our lives in any number of ways. California just had the biggest pertussis [whooping cough] outbreak in 70 years... We have a measles outbreak now in Minnesota. We will have more. This is because people are afraid of a measure that is unarguably one of the safest and most effective in the history of medicine.

How do you think this phenomenon affects science centers and museums? It’s hard to educate the public about science when people don’t want to listen to the facts. [That’s] why we live in a country where 40% of people say they won’t vaccinate their children and get the flu shot—and where about the same number say they don’t believe in evolution.

How could science centers and museums help? Let people know that measles killed 150,000 people in the world last year...or that, in this country, polio was a very serious illness that frightened us all until just a couple generations ago. These things are gone now, essentially. We don’t think about them because vaccines have been so effective. Museums can show us [that].

Is this what you’re planning to tell attendees of the ASTC Annual Conference? I might want to talk about what they could do differently that they’re not doing now. But I want to save a little bit for the speech.
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