

ASTC Dimensions

Bimonthly News Journal of the Association of Science-Technology Centers

March/April 2005

The Art of Advocacy:



WINNING PUBLIC SUPPORT

- * **A Gleaming Tower on a Mountain:**
Developing a Legislative Agenda
and Making It Happen
- * **Growing Toward a Science Center:**
The Flanders Model
- * **Thoughts on Representing the Field**
- * **Working with Lawmakers:**
Lessons from the Grassroots
- * **On the Ballot:**
Letting the People Decide
- * **ECSITE-UK:**
Britain's Science Center Advocate



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Strong public support for science centers and museums should be a given. With science, technology, engineering, and mathematics (STEM) high on government priority lists, and legislators worldwide eager to improve STEM education, strengthen science and technology workforces, and boost national economies, it seems logical that ASTC members would receive a goodly share of public monies. But how do we get our message across in the face of large and powerful competitors? In this issue, for which ASTC government and public relations director Sean Smith served as co-editor, we look at advocacy strategies that have proved effective at local, state, and national levels; examine the risks and rewards of taking one's case directly to the voters; and consider our larger role in the public forum as proponents of lifelong science learning.

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Cover: From volunteers at the polls to behind-the-scenes relationship building in the state legislature to nationwide outreach programs, effective advocacy for public support calls for strategies at all levels. *Photos, left to right: tax levy campaign volunteer Helen Black, courtesy Cincinnati Museum Center at Union Terminal; the Maryland State House, Annapolis, courtesy Maryland Office of Tourism Development; an FTI Foundation science festival, courtesy Technopolis, the Flemish Science Centre*

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A Gleaming Tower on a Mountain:

Developing a Legislative Agenda and Making It Happen

By Greg Andorfer



Greg Andorfer, right, meets with U.S. Senator Barbara Mikulski of Maryland and Edward St. John, vice chair of the Maryland Science Center board and head of the building committee, to discuss plans for the expanded science center. The expansion, inset, was completed in 2004.



television stations, as well as funding for the major part of the core PBS program schedule. Towers, of all kinds, can make a difference.

After a 22-year career in public broadcasting, I moved to Baltimore in 1996 to head the Maryland Science Center (MSC). As executive director and CEO, my charge was to help articulate and execute a board-driven vision to renew the 200-year-old institution (originally the Maryland Academy of Sciences) at its current Inner Harbor site.

Board chairman Tom Bozutto, a prominent Maryland developer, had set the daunting goal of making MSC the “best science center in the country.” Staff and trustees (and eventually the community) were determined to get there. But first we needed to work on capacity-building.

Along with envisioning what MSC could and should be, we needed to decide how we would plan, how we would find supportive partners for the long run, and, most importantly, how we would gather the extraordinary resources to complete a \$34.5 million expansion project. I knew that fundraising at a science center would be more challenging than it had been at

Flashback, the Arizona desert. A former colleague, now the head of the Phoenix public television station, is showing me around. As we drive through the city, I comment on a giant tower that sits atop a far mountain ridge like a lone sequoia. He smiles and says, “That’s mine.”

What is it for? I ask. “Well, we needed to get our signal into the next valley, over the ridge, where all the new viewers are—and members and contributors and big gifts.”

That must have cost a lot, I venture. “No,” he replies. “It’s already paid for.”

Impressed, I can’t help inquiring how he could afford such a project. “The state,” he tells me sternly, surprised by my naïveté. “What are legislators for, if not to bring money back to their districts and constituents?”

That gleaming transmission tower was my introduction to the symbiotic relationship that exists between communities and institutions that depend on public support for their important projects and the legislators who, empowered by the public, help to provide resources for those projects.

Indeed, the Public Broadcasting Service (PBS) itself began as a legislative response to a perceived need for quality products in a “vast wasteland” of network programming. Think of the wonderful PBS programs that have ensued. Today, Congress appropriates nearly \$400 million a year for the Corporation for Public Broadcasting, ensuring a healthy annual operations subsidy for most public

PBS. A key factor would be enhanced government advocacy at the local, state, and federal levels.

Success on the home front

At MSC, public advocacy skills were somewhat rusty. In the mid 1970s, the General Assembly in Annapolis had supported efforts to build the science center on the emerging Inner Harbor, and in the mid '80s MSC had gone back to the state for help in constructing an IMAX theater. That was almost the sum total of the institution's capital lobbying experience.

This time, we needed a truly professional effort. I rehired a respected Maryland lobbyist to help staff and board develop a new legislative agenda. Our first priority was to cultivate support from the executive branch. (In Maryland, the governor, not the legislature, sets the capital budget.) We were fortunate that Tom Bozzuto had worked closely with then governor Parris Glendening and his chief of staff. A meeting was arranged.

Our initial request was to be for \$8 million. But the night before, I had a gut instinct that the figure was too low. I called my chairman. "Let's be bold," I said. "Let's ask the state to pay for the building costs: \$20 million, clean and simple." He agreed. The next day, although we didn't get as much as we asked, we did get \$16 million—doubling our money overnight. Without the generosity of Maryland's executive branch (now including current governor Robert Ehrlich), I believe we could not have completed our campaign on time.

Next we focused on the General Assembly. It took six years, with as many as 15 trips to Annapolis per year, to develop strong relationships with individual legislators, especially those who served on relevant appropriations committees. We began with chairs and co-chairs, whose seniority and influence helped tremendously. We learned to strengthen our pitches by matching them to the careers, legislative backgrounds, and committee interests of specific legislators.

To communicate MSC's commitment to all of Maryland's citizens, not just those in Baltimore, we loaned traveling exhibits to legislative districts across the state, from the Chesapeake Bay to Western Maryland. We also did a number of special events statewide. And when we aligned our programs with the state curriculum, under state superintendent of schools Nancy Grasmick, we jumped to another level, one that may lead to more annual operating support.

Two General Assembly members would prove especially helpful to our cause. One, a former high school principal, talked to us about how to capture and keep students' interest in science. The other, a former science teacher, loved our plan for a physics exhibition, *Newton's Alley*, that would reach across age ranges with a mix of experiences. Their enthusiasm proved contagious, and the governor's \$16 million budget request passed in both houses.

On the local level, we were equally active. We visited Baltimore's City Hall and held luncheons at MSC for two mayors and for directors of city agencies. We testified before the city council (several of whose members now serve as MSC trustees) and led walkthroughs for department heads.

The result was that the city voted us \$4.7 million in bond money, approved by the citizens in two election cycles, and also lived up to a 26-year-old commitment to sell MSC an acre of land for "future expansion" for \$1. New language inserted in a state bill by a sympathetic legislator allowed us to value this land for millions of dol-



In MSC's new *Dinosaur Mysteries* gallery, Maryland's own *Astrodon johnstoni*, pursued by a meat-eating contemporary, heads for the Baltimore skyline.

lars and use that as "matching funds" against state bond appropriations, thus helping our cash flow.

As it turned out, our plans called for building over a critical sewer line, at considerable replacement cost. Here, too, the city was generous. A supportive department head ruled that it was time for an upgrade, and the city paid for the repair. The good relations MSC built in Baltimore are still at work, helping to secure support for a much needed parking garage nearby.

All of these experiences reinforced the lesson that legislative success is a symbiotic partnership. MSC

found enthusiastic support from public executives and legislators throughout the state as we presented our case for broadly enhancing science and technology education. This kind of contribution is easy for people to endorse because it links not only to education but also to economic development and growth and the health of the workforce. New buildings are a visible sign of progress, and legislators are proud of what they bring home, or help to create, for the greater common good.

Taking our case to Washington

The final item on our legislative agenda was federal dollars. Early on in the campaign, we began discussions with one of Maryland's U.S. senators, Barbara Mikulski, a staunch national champion of science and technology. Sen. Mikulski has been instrumental in appropriating annual funding for the National Science Foundation (NSF) and the National Aeronautics and Space Administration (NASA).

For years, she has looked after NSF's Informal Science Education (ISE) program, which provides monies for permanent and traveling museum exhibitions, IMAX films, community programs, and science programming on PBS. For her efforts on behalf of science centers, Sen. Mikulski was named an ASTC Fellow in 2003.

In support of MSC's expansion, the senator helped the science center obtain nearly \$1.4 million for an earth-science-focused partnership with Maryland's NASA Goddard Research Center. She was also kind enough to help us thank a corporation for their major gift to the campaign; soon after, they quadrupled the gift.

Working to maintain current federal resources and create new ones is a key priority for ASTC, as it is for MSC. The efforts of ASTC and museum leaders, working with congressional leaders like Sen. Mikulski and Rep. John Porter (see "A Healthy Strategy Pays Off," right) and their staffs, have raised the appropriations for programs like ISE and the National Institutes of Health's Science Education Partnership Awards (SEPA) — "seed corn" for high-quality science center projects. Along with supporting this advocacy, MSC has been fortunate enough to win federal support for most of its competitive proposals.

My experiences in public television and at the science center have shown me that there are committed partners and pots of money ready to help science communicators convey the wonder and efficacy of science and technology in many media.

Around the world, science centers are cultivating and winning support and cooperative agreements from local and regional governments. Does the field have the political clout to achieve more? Why not try? There are a lot of gleaming towers out there, just waiting to be built. ■

Gregory Andorfer, former executive director and CEO of the Maryland Science Center, is now a consultant and head of Stardust Visual, a production company. He can be reached at gandorfer@aol.com.

A Healthy Strategy Pays Off

In the late 1990s, Maryland Science Center was part of a consortium of nine museums developing a new traveling exhibition, *The Changing Face of Women's Health* (see Spotlights, *ASTC Dimensions*, September/October 2000). This cutting-edge project was launched with a Centers for Disease Control (CDC) grant and secured with additional monies from the National Institutes of Health (NIH).

MSC was the consortium's lead institution, and shortly after I arrived in Baltimore I recommended to the other partners that we commit to raising twice the amount of money we had originally thought we would need. If my years in public television had taught me anything, it was that only a nationwide reach can secure for a project the resources needed to do things right and to pay for effective marketing. Not all of the directors saw the need, but they agreed to let me try.

A former PBS colleague signed on to coordinate national fund-raising. Because of the project's focus and reach, we were able to secure major additional grants from Pfizer and the Metropolitan Life Foundation, both of which were then directing resources toward women's health. As a bonus, the new grants generated considerable overhead and local promotional dollars for the partners.

Women's Health opened in 1999. About that time, the U.S. Congress was on track to double the NIH budget from \$15 billion to \$30 billion over five years. I met with ASTC executive director Bonnie VanDorn. ASTC had previously contacted the program officer in charge of the Science Education Partnerships Award (SEPA) program at NIH's National Center for Research Resources (NCRR), but nothing had come of the overture. With NIH now in line to get "billions and billions," could science centers tap into these new resources? Could the success of the *Women's Health* project help us to advocate for new competitive funds at NIH?

ASTC seized the opportunity. Bonnie, ASTC government relations director Ellen Griffiee, and a number of museum directors met with NIH officials to learn more about that organization's culture. We found an ally in NCRR director Judith Vaitukaitis, who accepted an invitation to address a session at the ASTC Annual Conference. Surrounded by enthusiastic museum directors, she remarked that she "didn't know the science center field was so vigorous."

On Capitol Hill, we met with House and Senate appropriations committee staff. We knew we were on the right track when House Appropriations chairman Rep. John Porter of Illinois spoke to us of not leaving the American public "out of the equation" at NIH. With our proposed report language and backing from Vaitukaitis, SEPA got a \$14 million funding increase in 2000.

As one of the first-year science center awardees, MSC used its \$1.6 million SEPA grant to create *BodyLink*, a *Health Update Center*, in partnership with John Hopkins Medical System. To date, some 20 ASTC members have directed or participated in SEPA grant projects, and the resulting programs and exhibits have offered millions of museum visitors the opportunity to engage with exciting, cutting-edge health science research.—Greg Andorfer



Developed by a consortium of museums, *The Changing Face of Women's Health* helped make the case for increased federal funding of science centers. Photo courtesy Maryland Science Center

Working with Lawmakers: *Lessons from the Grassroots*

By Tom Krakauer

When I came to Durham, North Carolina's Museum of Life and Science (MLS) in 1985, state support for science centers and museums was idiosyncratic and sporadic, consisting primarily of funds "earmarked" for special projects by local legislators. Over the next few years, my institution worked with eight others in the state to win annual funding for all science museums. The evolution of that lobbying group, known as the Grassroots Science Museums Collaborative (GSMC), was described by Todd Boyette and Mark Sinclair in "From the Grassroots Up," an article in the May/June 2001 issue of *ASTC Dimensions*.

Today, GSMC includes 22 museums, with annual state funding of more than \$3 million. The group has a \$1 million endowment for program support and employs an executive director, Fran Nolan, to attend General Assembly sessions and relevant committee meetings in the state capital, Raleigh; build relationships with legislative staff; and apprise GSMC members of actions taken and local efforts needed. Because GSMC institutions are located all over North Carolina, the collaborative now has legislative allies throughout the state. That is real strength.

What lessons did GSMC teach us about government advocacy? I can think of two that apply to legislative action at all levels: "Build your friendships before you need them" and "Bad things happen when you are not in the room." Both recognize that legislative action has to begin long before politicians go into session, and that success is as much about relationships as it is about substance.



Scenes from a GSMC Legislative Day: (clockwise from top left) SciWorks director Bev Sanford (left) greets Forsyth County representative Earline Parmon; Natural Science Center of Greensboro naturalist Rick Bolling, with scaly friend, chats with representative Maggie Jeffers (left) of Greensboro County; Todd Boyette, president and CEO of The Health Adventure, pays a call on a legislative staffer. This year's GSMC Legislative Day is scheduled for April 13. Photos courtesy Fran Nolan/GSMC



Nurture alliances

Often we are so busy with the immediate that we ignore what is really important. Efforts to cultivate public funding should be just as intense as efforts to cultivate private donors—the potential return is not only greater, but annual.

Developing strong relationships with legislators is not rocket science, but it does take year-round attention. Here are some suggestions:

- *Build bridges to all.* The morning after election day, send congratulatory notes to the winners and notes of appreciation to the losers, thanking them for their service to the community. Why the losers? Because the pendulum may swing, and they'll be back in the legislature.

- *Get involved locally.* Your participation in your local chamber of commerce and public schools can help ensure that museum funding is a priority when those groups draw up their legislative agendas.
- *Make your efforts visible.* The members of GSMC cooperate in an annual Legislative Day in Raleigh. On that day, different museums set up displays at the General Assembly building to demonstrate their programs and capacity for statewide service, including projects that involve underserved populations.

- *Cultivate a champion.* Because everyone in the legislature votes, you need many friends there. But to be truly successful, you need one particular “champion,” a legislative leader from your district who will support your funding from beginning to end and who will fight for you when last-minute deals are struck. Identify that individual and ask for his or her commitment to your cause. As a collaborative, GSMC has been able to win two champions—one in the state Senate, and one in the House of Representatives.

Stay connected

State legislators look after their own constituents. Unless you are in their district, your appeal may fall on deaf ears. Even then, being a field trip destination is not enough to justify funding; you have to show that what you do is directly related to legislative goals. Education priorities change from year to year. In some years, the focus may be on teacher professional development; in others, it's aligning programs to state standards.

Here are some pointers for ensuring that your institution is “in the room” when legislators meet:

- *Pay attention to committee structures.* When a school group from a key legislator's district visits your museum, take a photograph and send a “love note.”
- *Be generous.* Give your business card to a key legislator's administrative assistant, and invite that person to bring his or her family to the museum for free. More than once, this friendly gesture has got me in to see a senator whose door was closed.
- *Work through professionals.* Consider hiring a lobbyist to tell your story, or, if a member of your board represents a major regional employer, make use of his or her corporate legislative liaison.
- *Shade your language appropriately.* Be familiar with legislative priorities, and provide coherent messages on what you have to offer—be it early childhood education, teacher professional development, or statewide program-

What Your Legislator Wants from You

By Bill Gilmartin

Meeting with your state legislator or member of Congress on pending issues can be daunting. There are, however, simple suggestions and guidelines that can help you communicate your message successfully and persuade your representative to adopt your position. Here are 10 tips on how to make the best use of your face-to-face time.

BEFORE THE MEETING

- **Write a letter.** An original one- or two-page letter from a constituent—clearly laying out what the writer is promoting, requesting, opposing (and thanking the legislator in advance for his or her response)—will get prompt attention.
- **Do your homework.** Is your representative in a position to help you achieve your goal? Does he or she serve on a relevant committee? Has he or she expressed interest in—or opposition to—your particular issue?
- **Follow the legislative schedule.** In the U.S. Congress, for example, consideration of funding issues begins with submission of the president's budget request in early February; appropriations bills are written in spring and summer. Schedule your appointment accordingly.
- **Keep the agenda short.** One, two, or three items is reasonable; more is just a laundry list.

AT THE MEETING

- **Keep your group small.** Three or four people is a manageable number. Have one person lead the discussion from your side and keep the conversation on point.

- **Establish your credentials.** If your legislator is on good terms with one of your board members, mention that. Provide a brief history of your organization and its contributions to the community.

- **Make your case succinctly.** Illustrate your request with relevant facts, figures, and anecdotes. Don't expect that your representative will agree with you on everything; anticipate and be prepared for objections. Keep your responses geared toward local impact.

- **Be clear about what you are asking.** Do you want your legislator to support a particular program at the highest funding level? To write a letter of support to a committee chair? Or, if he or she is the chair, to include your position in a committee recommendation? Try to leave with as specific a commitment for action as possible.

AFTER THE MEETING

- **Stay in touch.** Follow up with a thank-you letter that summarizes your points and the outcome of your meeting. Invite the representative and/or staff to visit your facilities; add his or her office to your newsletter mailing list or send updates on your activities. Offer yourself as the “go-to” source in your field.
- **Credit your representative's efforts.** Schedule an event that spotlights the impact of public policies and/or funding and invite your legislator to speak. Acknowledge those in attendance, as well as other supportive legislators who could not be present.

Bill Gilmartin, a former legislative staffer on Washington, D.C.'s Capitol Hill, is ASTC's lobbying consultant.

ming in some key area. The fact that MLS had sponsored *Pi Day* math programming, developed with NSF funding, in science centers statewide gained us credibility with legislators.

You know that your institution is doing good work. Let officials and legislators know how that work can support their priorities, and you will be able to increase your govern-

mental funding as a part of your development efforts. ■

Museum consultant Tom Krakauer is president emeritus of the Museum of Life and Science, Durham, North Carolina; he can be reached at tkrakauer@mindspring.com. To learn more about the Grassroots Science Museums Collaborative, visit www.grassroots-science.org/, or contact Fran Nolan, fran.nolan@ncmail.net.

Growing Toward a Science Center: *The Flanders Model*

By Erik Jacquemyn

Technopolis, the Flemish Science Centre, was conceived in collaboration with the government of Flanders—one of three semi-autonomous regions of Belgium—and continues to be operated in close conjunction with that government. The formula works because both partners believe strongly in the goal of increasing science literacy.

The reasons for the Flemish government's interest in promoting science and technology are perhaps obvious (see "A Pillar of Science and Innovation Policy," by vice-minister-president Fientje Moerman, page 9). But why would it choose to do so through a science center? The answer is that a science center was not the primary goal of the government, but rather the logical culmination of a carefully developed process.

Step by step for science

In the early 1980s, Flanders was experiencing a period of economic crisis and high levels of unemployment. In response, the minister-president of the first independent Flemish government, Gaston Geens, initiated a plan to integrate the Third Industrial Revolution—the emerging information society, new materials, and gene technology—into the regional economy. One element of this plan would be a biennial "Flanders Technology International" (F.T.I.) fair.

The first F.T.I. fair, held in Ghent in 1983, was a real eye-opener, presenting a world of different technologies to both professionals and the general public. By the third fair, in 1987, the event was drawing 200,000 visitors a week. In 1988 the government established a permanent structure around the fairs, the F.T.I. Foundation, and



Opened in 2000, Technopolis (left) is the visible standard bearer of the F.T.I. Foundation's mission. Above: Visitors listen to *Sounds of the Lung*, an exhibit at the Flemish science center. Photos courtesy Technopolis

gave it the mission of bringing science and technology closer to the people.

Large events can help to change popular opinion, but continual awareness is better. In 1992, Flanders' second minister-president, Luc Van den Brande, endorsed an F.T.I. Foundation proposal to augment its fair with ongoing activities, such as a science festival, a science week, science theater, and an itinerant science truck—each tailored to a different target group, but in a coordinated way and always with an element of surprise and pleasure. The overall message was to be one of enjoyable challenge and personal style: "Science is cool. Science is fun. Science is smart."

Thus was Flanders introduced to what the science center world knows as "outreach," but with a key omission—there was no identifiable institution to do the reaching out. People got interesting messages, but from an anonymous source, a department with an incomprehensible name. Marketing-wise, this was not the best situation. So in 1997 the government voted to create a visible focus, a flagship amid the fleet of science initiatives, integrating them all as different products from the same brand.

As a tangible place where the public could experience the science that

permeates their daily life, Technopolis would become the standard bearer for advancing public understanding of science in a way that the immaterial F.T.I. Foundation had never been or could be. At the same time, the science center would benefit from the foundation's inherent flexibility and wealth of experience. The F.T.I. directors include a former minister-president of Flanders, the president and one of the members of the foundation's scientific committee, a secretary general of the science administration, a former minister of budget and science policy, a former minister of the treasury, and the former president of the board of an important bank.

The path to success was not always smooth. Freeing 15.5 million euros in government money for construction was a challenge, and it was even more difficult to convince those concerned that their initial investment needed to be followed up, year after year, by a sufficient working grant. Following the 1999 elections, a new Flemish government moved to restructure the government administration and the organizations emanating from it. Technopolis, still under construction, had to adapt to new ways of cooperation with the government. The F.T.I. Foun-

ation started talks with the new minister, Dirk Van Mechelen, and was in the meantime asked to organize his new initiative: the Day of Technology.

Despite these setbacks, the first visitors entered the new science center only 625 working days after the government decided to create it. That Technopolis got off to a flying start was due not only to 17 years of advance work on public understanding of science and the strong reputation of the F.T.I outreach projects, but also to advice and cooperation from science centers around the world.

Another factor in our success has been the science center's "Trojan horse" approach: Each experience is designed to be easily digestible, often with an unexpected "aha" outcome. The science may not be evident immediately, but it is always present—a kernel of knowledge enrobed in Belgian chocolate, one might say. Together with the joy, the science slips in.

Efficient, effective, and accountable

The Flanders story, then, is one of a small region with limited means using its resources wisely to promote science literacy. Only from a series of coordinated government actions did the need for a flagship gradually emerge. When it did, the science center project was able to win (and sustain) support because the F.T.I Foundation for years had ploughed the field.

In marketing terms, the decision makers in Flanders gradually saw the need for a "core product" that would unite and synergize a series of "side products," concentrating marketing efforts and communication in one "brand." Many science centers had opened in Europe in the early 1990s, but it was years before they started their outreach activities. In Flanders it happened the other way around.

This strategy has proved efficient, effective, and persuasive. At the urging of the Dutch minister of education, Maria van der Hoeven, this model of science center as central coordinator is now being copied by the government

A Pillar of Science and Innovation Policy

By Fientje Moerman

In today's worldwide knowledge economy, innovation and creativity most often mean scientific innovation and creativity. Without a sound scientific base, a country's industry will crumble, the gross national product will evaporate, and people will sink into poverty. No government can bear that.

In Flanders, our base materials are knowledge and know-how. If we want to maintain our wealth and welfare, we must invest in our only mineral: gray matter. We must inspire our young people to study science and to choose science careers. That effort will cost money, and the results will be apparent only after a long time. But it is more than an economic investment; it is also an investment in democracy. Not only does Flanders need new scientists; we also need a general public that understands the technologies that shape our lives, from the Internet to gene technology. People must be able to make informed social choices on issues like nuclear energy, cloning, and climate warming.

In its action plan on the popularization of science, technology, and innovation, the Flemish government works with a few key structural partners. The F.T.I Foundation is one of these pillars. Of the 9 million euros allotted in the Flemish budget for the advancement of the public understanding of science, 3.5 million goes to the F.T.I Foundation for Technopolis and its outreach programs.

The Flemish administration and Technopolis are also co-founders of the Advancement of the Public Understanding of Science Network. Technopolis works with science book publishers and specialized centers, such as observatories and zoos, and takes part in initiatives for target

of the Netherlands in its "Delta Plan" for advancing the public understanding of science. From a time-honored rival, the compliment is gratifying.

In 2003 the F.T.I Foundation signed a five-year agreement with the Flemish government regarding continued support for Technopolis. In it are formulated different mid-term goals, a plan of work, and 20 performance indicators—measurable things such as the percentage of working exhibits, the number of



CEO Erik Jacquemyn, left, with science policy council secretary Elisabeth Monard, welcomes Flemish vice-minister-president Fientje Moerman to Technopolis. Photo courtesy Technopolis

groups like "Youth and Science."

As minister, my role is to provide a workable and integrated framework for government and other initiatives and to catalyze interaction between all actors. I give special attention to schoolchildren, a group highly interested in science and technology. If that interest is to result in a higher influx, output, and throughput of scientific or technological studies, we have to heighten the synergy between students' in-school and extracurricular experiences of science and technology. Here, too, Technopolis plays a key role—for instance, through its new Technology Club for girls.

For all of these reasons, the Flemish government allocates an important role to Technopolis, and our recent structural agreement for a five-year cooperation with the science center was the logical thing to do.

Fientje Moerman is Minister for Economy, Enterprise, Science, Innovation, and Foreign Trade and Vice-Minister-President in the Flemish Government.

new exhibits per year, the number of visitors traveling more than 1 hour to the center, and so on—that define the bonus (or the penalty) on the yearly grant. In the first year, Technopolis scored 20 out of 20. ■

Erik Jacquemyn is CEO of Technopolis, the Flemish Science Centre, and managing director of the F.T.I Foundation. He is also a member of ASTC's board of directors and an ASTC Dimensions editorial advisor.

On the Ballot:

Letting the People Decide

For those willing to assume a little more risk in their search for public funding, one approach is to go directly to local voters. Making the case for a bond issue (common in capital projects) or a property tax levy (a source of ongoing revenue) can give your organization a tremendous boost. But what if you lose? In the following article, we hear from three science centers about their experiences—two successful, one unsuccessful—in going “on the ballot.”

The 1933 Union Terminal building in Cincinnati, Ohio, is home to five cultural institutions—the Cincinnati History Museum, Cinergy Children’s Museum, the Museum of Natural History & Science, the Robert D. Lindner Family OMNIMAX Theater, and the Cincinnati Historical Society Library—collectively known as the Cincinnati Museum Center at Union Terminal. On March 2, 2004, the group’s request for a five-year, 0.2-mill property tax levy was approved by the voters of Hamilton County.

Saving Museum Center

By Douglass W. McDonald

Although Cincinnati Museum Center had been developing relationships with key civic and political leaders for years, groundwork for our public funding initiative began in earnest in February 2002.

At the time, the institution was caught in an “economic perfect storm.” Attendance (especially in the evening) had dropped drastically after civil unrest and resulting police actions occurred in 2001 in the nearby downtown. In a lagging economy, our endowment, already diminished by construction overruns, had to be tapped again to cover deficits. Union Terminal, recognized by the National

Trust for Historic Preservation as “one of the last of the great railroad stations built in the United States,” was costing us \$2.6 million a year in maintenance alone—and repairs were long overdue.

What we needed was a detailed strategic plan. The short-term goal was survival; the long-term goal, a new funding structure that would allow Museum Center to meet our obligation to the voters who had entrusted us with the building’s care in the first place (our \$33 million construction levy wouldn’t be paid off until 2009) and to ensure financial stability while the organization solicited long-term resources.

Starting the process

The first step was for our newly formed “government relations committee,” made up of politically active trustees, myself, and a vice president, to develop its best argument for public funding. The group began by comparing Museum Center to like institutions by attendance, earned revenue, and other comparables. We took a close look at the organization’s financial picture and catalogued the building’s maintenance and preservation needs. Finally, we commissioned a third-party economic impact study. This would prove critical; through it, we were able to demonstrate that Museum Center attracted more than 1 million visitors a year, accounted for more than 1,100 jobs, and generated over \$75 million in the community. Those were impossible numbers for officials and the public to ignore.

The government relations committee also worked with a local communications firm to develop a marketing communications plan that would build



Above: Former basketball star and levy campaign co-chair Oscar Robertson speaks at the “Stand Up for Museum Center” press conference.
Right: The historic 1933 art deco Union Terminal.



Photos courtesy Cincinnati Museum Center

Museum Center’s institutional positioning, increase its role as a leader in the community, broaden its constituencies, and communicate the realities of its financial situation.

In June 2003, we were finally ready to submit our formal request to the Hamilton County commissioners, setting the legal process in motion. In accordance with a newly passed Accountability to County Taxpayers Act, a thorough financial audit had to be performed by an outside firm. The request would then be vetted by the Tax Levy Review Committee and submitted for approval to the county board of commissioners.

The auditor found that Museum Center operated efficiently and effectively, concluding that the levy request was justifiable and, in fact, necessary. The review committee recommended the \$3.8 million annual levy to the board in October. Museum Center mounted an active grassroots e-mail and letter campaign, and in December, the board voted unanimously to put the levy on the March 2004 ballot.

Down to the wire

Campaigning now became more straightforward. We already knew that potential voters wanted to save the historic terminal and appreciated the value of Museum Center attractions. Radio and television spots and print ads were created to support those messages. Outreach targeted absentee voters, likely voters, and registered museum-member voters. Volunteers and staff spoke in person to 38 community groups and secured endorsements from local media. A web site made key information available online.

Civic and community leaders rallied in support. More than 100 agreed to serve on a community leadership council; many attended a key “Stand Up for Museum Center” press conference that served as one of the campaign’s final pushes. Basketball Hall of Famer Oscar Robertson, equally famous in Cincinnati for his sports career and his civic pride, served as campaign co-chair and appeared in television spots. Apollo astronaut Neil Armstrong lent his name to a postcard campaign. A former mayor and a popular local clergyman appeared in radio spots, and a local radio/TV personality recorded a phone message reminding county residents to vote.

On Election Day, museum volunteers and employees, some in historic costume, created a compelling presence at polling sites. That night, we watched eagerly as “for” votes out-tallied “against” votes, 2-1.

In addition to the campaign itself, I believe there were two long-term keys to our success. One was that Museum Center did not retract after the civil unrest of 2001, but rather developed special exhibits and community-based programming in response. The other was that through our ongoing efforts to reduce expenses and increase revenues, we had already created an environment in which local fiscal conservatives could support the levy. ■

Douglass W. McDonald is president and CEO of Cincinnati Museum Center at Union Terminal, Cincinnati, Ohio; www.cincymuseum.org.

On November 2, 2004, voters in Miami-Dade County, Florida, approved a \$552.7 million general obligation property tax bond issue for cultural facilities. The total included \$100 million toward a \$175 million Miami Art Museum and \$175 million toward a \$267 million Museum of Science and Planetarium, both planned for Bicentennial Park.

On the Waterfront

By Gillian Thomas

I joined the Miami Museum of Science & Planetarium just 18 months ago, several years after plans for a new museum had been developed and some modest funding—a few pledges, planning grants, and a successful first fund-raising gala—secured.

This was a double challenge for me. I was in a new country, and I had never joined a project until at least half of the funding was in place. Given my past experience, I knew getting this kind of funding would be an uphill struggle.

So why did it seem attractive? Well, Miami is a special place. The waterfront location proposed—with two museums, science and art, in a new museum park—had to be one of the best opportunities worldwide. It just remained to persuade the voters.

Pros and cons

Early trips to see city and county commissioners and potential sponsors were both encouraging and cautionary. We learned that the science museum is much loved throughout the community; it is rare to find someone who does not have a happy recollection of a visit. A survey showed that if the museum went alone for a bond, 75 percent of voters would support it.

At the same time, although it was easy to sell a vision of the new museum, sponsors wanted to be sure that the bond funding was in place before they would commit. It was also uncertain that the county would go ahead in the near future with a general obligation bond that included the museum, even though such a project

had been talked of for years.

We began a campaign to go it alone. Our plan was to circulate a petition and obtain sufficient votes to get on the ballot. This would require substantial time spent with county officials and commissioners just to get them through the first stage of agreeing that a petition could be proposed.

Fortunately, at this junction the county decided that it would in fact go ahead with a general obligation bond. After substantial discussions, the figure of \$175 million was agreed on for the museum. The funding would be included in a bond specifically for cultural projects. This was a one-of-a-kind opportunity for the county, which was finally paying off its debt from its Decade of Progress Bond 30 years ago. Miami-Dade could now issue \$2.9 billion in new bonds for projects without increasing the homeowners’ millage rate for local taxation.



In November 2004, voters approved funding for two new Miami museums—one for science, one for art—in a new waterfront Bicentennial Park. Photo courtesy Miami Museum of Science

The Miami Museum of Science thus became part of a large county ballot initiative, included in one of eight questions with a group of cultural projects and some education initiatives. Unfortunately, polling now showed that the cultural question would be one of the most difficult to get passed. Voters were concerned about both the total cost—another project here, a performing arts center that is already almost completed, is running substantially over budget—and the sheer size of the ballot question, at over \$500 million.

The power of many

The cultural sector got together to work out how we could get the vote passed. We were advised by political strategists to focus on all eight questions and on getting our vote (i.e., the cultural issue) out. If we worked together, we were told, rather than trying to sell our individual projects, we would do better.

The county was already planning an extensive, trilingual general information campaign, with over 1,000 groups and locations targeted. We all had large booster groups. We could reinforce the county effort by calling on this base.

This is just what we did. Speakers' bureaus trained our people to address community groups. Telephone banks of members and other constituents were contacted. We spoke to every group that used or visited the museums, and we sent postcards, letters, and e-mails to contacts, friends, and colleagues. All of the cultural groups contributed funds to a common advertising campaign. In the end, all eight questions passed, with over 60 percent of voters in favor.

To me, the most positive aspect of the campaign was the way in which these generally competing organizations collaborated and actually followed the political advice, even when it seemed counterintuitive. Despite our desire to trumpet our individual projects, we managed to work together to promote all eight questions, and we won.

Since then, I have been delighted by the number of people who have come up to me to say they are pleased the bond issue passed and that they personally contacted family, friends, and colleagues to ask them to vote. We are lucky to have generated this level of support in a very diverse and fragmented community. Miami is indeed a city with a bright future—its citizens voted for it. ■

Gillian Thomas is president of the Miami Museum of Science & Space Transit Planetarium, Miami, Florida: www.miamisci.org.

In March 2004, COSI Columbus asked the voters of Franklin County, Ohio, to approve a 0.5-mil property tax levy intended to generate \$12.4 million a year for the science center over five years. In return, county citizens would no longer have to pay admission to visit COSI. Despite support from the Columbus business community, the levy failed by a margin of 2-1.

When the Answer Is 'No'

By Kathryn D. Sullivan

Throughout its history, COSI Columbus has been a two-legged stool, relying on earned income and corporate/private support, but without an ongoing public appropriations "leg." Staff and the board had discussed, as early as 2001, the possibility of going to the voters for support, but it wasn't until mid 2003 that the time seemed right to launch a campaign.

Internal research suggested that we had the makings of a solid case statement—investor support, good data, quality programming, finances in sound order. The idea was to prepare in early 2004 for the November ballot.

A race to the polls

The project began well enough. Our first step was to find out whether the science center could qualify, under state law, to request ballot support. In Ohio, the law clearly allows municipalities to seek a tax levy for a zoo or zoological park; there is also a provision (the one Cincinnati relied on) for public buildings. Our pro bono legal team turned up another provision that looked hopeful: Ohio law permits levy support for "a free museum of art, science, or history." To qualify, COSI would need to be truly free at the door to citizens of the county that passed the levy.

That finding created a lot of excitement among our board and external business partners. Staff started crunching numbers. What size request would allow us to meet our goal but not exceed what voters were willing to pay? The judgment was that 0.5 mil per \$1,000 of assessed value would be enough to cover lost admissions and

provide a worthwhile increment of operating support.

The wild-card factor in all of this was the Columbus Zoo, which was looking to put forward its own 10-year levy renewal in March 2004. In late October 2003, while we were still working on our long-range plan, the zoo discovered a technicality that required it to go on the November 2004 ballot instead.

This put us in a dilemma. Could we move rapidly enough to try the March 2004 ballot, or would we have to hold off for a year? A conversation with the Franklin County commissioners indicated that, although the timeline was short, it was possible in terms of the legal requirements and they were willing to assist us. A short burst of polling and opinion sampling produced a strong positive, 65 percent, for a "free" museum. We decided to go for it.

Throughout October and November, we assembled our paperwork. We learned of some focus groups being done on civic topics by a community affairs organization and piggybacked on their work, inserting a small group of COSI-related questions into the list. Support still appeared strong. In mid-December, we filed.

With less than three months to make our case, we got rolling. Two strong board companies, key players in developing the new COSI, brought in contractors with political campaign experience to help run the effort. Volunteers distributed flyers and walked the communities. I spoke to commissions and Rotary and Kiwanis clubs countywide. Our "Campaign for a Free COSI" collected about \$500,000. A public relations consultant wrote letters to local officials; we did media, radio, and TV spots, including some with celebrity proponents. Everyone was telling us we were on track—right up to March 2, when the levy was soundly defeated.

Post-election reflections

Could the outcome have been prevented? Looking back, it's clear that the speed of the process cost us in terms of friend-making (*Continued on page 14*)

ECSITE-UK:

Britain's Science Center Advocate

By Melanie Quin

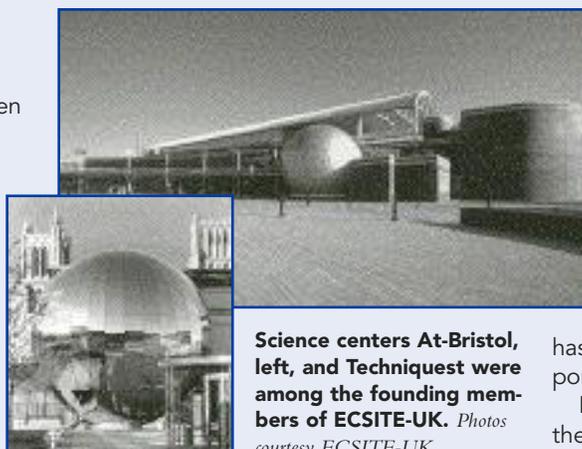
This is the story of an advocacy campaign that began in 2001. It hinges on the distinction we make in the United Kingdom between a "science center" and a "science museum." Science museums—with historic collections representing national heritage—are eligible for funding from the government's Department of Culture, Media and Sport (DCMS). Science centers—with specially designed interactive exhibitions but no heritage artifacts—are not.

Pulling together

ECSITE, the European Network of Science Centres and Museums, was established in 1989. By 2000, as a result of an extraordinary investment of U.K. national lottery funds in new science center projects (the Millennium Centres), a fifth of all ECSITE members were located in the United Kingdom. This seemed to call for a dedicated organization in Britain.

A proposal was put to ECSITE's board of directors, and ECSITE-UK was constituted in 2001 as a national chapter of the European network. Colin Johnson, then director of Techniquest, Cardiff, was elected first chair, and the present author was appointed executive director.

An immediate aim of ECSITE-UK was "to establish a major capital fund for the refurbishment of science centers and their exhibitions." The Millennium Centres had received capital funding only—a condition of that lottery fund—and many were struggling to survive. Older institutions were also in need. Gillian Thomas, formerly CEO of At-Bristol and now president of the Miami Museum of Science (see page 11), laid the groundwork with the Wellcome Trust and the Millennium Commission, and ECSITE-UK staff were invited to comment on draft documents. In August 2002, the ReDiscover Fund was launched as a joint venture between the Millennium



Science centers At-Bristol, left, and Techniquest were among the founding members of ECSITE-UK. Photos courtesy ECSITE-UK

Commission, the Wellcome Trust, and the Wolfson Foundation to support science education and engagement with the public.

The Fund was to make awards totaling £33 million in four funding rounds over three years. To be eligible, organizations had to attract a minimum of 30,000 visitors a year and have been in operation for at least one year. The fourth round is now closed, and successful last-round applications will be announced soon after this article is published.

The Millennium Commission will end in spring 2006, leaving no obvious successor to ReDiscover. However, a new lottery scheme, the Big Lottery Fund, has been announced, and ECSITE-UK has asked for science centers to be considered for funding.

Falling between three stools

A more long-term challenge is the fact that the U.K. science center sector and the government are in a situation which—although anticipated and explicitly warned about—is not where any of us would wish to be. No one wants to "own" the science centers.

There are several possible candidates. DCMS is the Ministry for the Millennium Commission, but they have an ongoing unease about lottery projects that have not achieved self-sufficiency. The Office of Science and

Technology of the Department for Trade and Industry (DTI/OST) is in charge of science and public engagement with science. The Department for Education and Skills (DfES) is responsible for the formal education sector. There is also a specially convened Inter-departmental Steering Group, the existence of which implies that government feels someone

has to take a positive decision to support science centers.

Mindful of our purpose "to raise the profile of science centers and support their sustainable development," ECSITE-UK developed an advocacy strategy and began knocking on doors in Westminster. In that strategy, the role of chair has been central. Colin Johnson and his successor, John Durant, CEO of At-Bristol, have brought insight, flair, and tenacity to the process, crucially supported by committee members who represent the full range of ECSITE-UK member institutions.

For our first initiative, in 2002, we collected data and case studies, including visitor numbers, exhibition sizes, operating budgets, sources of income, and examples of excellence in educational and engagement programming. A full report, with science center deliverables matched against government department objectives, went to civil servants at DCMS, DTI/OST, and DfES. A two-page executive summary was mailed to more than 100 members of Parliament and peers with responsibility for science/education through committee membership or ministerial appointment. We repeated the exercise in 2003 and are working on a third version.

At every opportunity, we network with key influencers of policy. We secured meetings with two successive secretaries of state for education, and with the science minister (not a cabinet post). Among our discoveries was that DCMS does not include "science" in

its definition of “culture,” and that the department has been trying hard to wash its hands of the science centers’ predicament.

Cautious optimism

England’s two great national science museums, the Science Museum and the Natural History Museum in London, bring in around 11 percent of their operating expenditures from trading and operating income, including admission fees. Techniquest is the comparable institution within the science center sector, though on a much smaller scale, in that it receives government “revenue funding.” Its breadth and depth of education and programming are supported by funding from the Welsh Assembly. Techniquest typically earns 65 percent of its operating income and receives 35 percent from government. This is the model we are promoting.

The good news is that Westminster announced in March 2004 a total of £2 million in revenue funding for five English science centers through April 2006. This represents recognition of the contributions these institutions make, both to informal science learning and to wider public engagement, as well as their need for revenue funding.

The announcement acted as helpful leverage on parallel discussions in Scotland. In June, the Scottish Executive announced a £5.1 million investment from the Executive and £1.9 million from Scottish Enterprise as part of a two-year package. The four Scottish science centers have also secured a £3.7 million per annum budget line within the Scottish Executive Education Department. This funding is comparable to that provided by Wales for Techniquest, and is tied to a structured framework of delivery milestones.

The situation of the science center sector is by no means secure, however. The interim funding applies only to Millennium Centres, and ECSITE-UK has an obligation to help all member institutions. Two Scottish science centers are represented on the ECSITE-UK Committee, and it is now our job to apply leverage from north of the border to the situations in England and Northern Ireland.

At the same time, we are developing a common vision of science engagement across Britain in partnership with the BA (British Association for the Advancement of Science) and the National Museum for Science and Industry. The government-funded Research Councils appear to be buying in; the next step is to sell it to DTI/OST. The price tag? Several million pounds a year. ■

Melanie Quin is executive director of ECSITE-UK; www.ecsite-uk.net.

(Continued from page 12) and coordination. Having more consultation with community partners might have forestalled the perception by some that COSI was benefiting at their expense.

Compelled to be too hasty with our research, we were also too trusting. With even the most pessimistic survey putting us ahead by 11 or 12 points, we forgot one of the classic flaws of such instruments: People are conscious of how they’ll look when they state their opinion. On election day, the downtown precincts strongly supported the levy, but in the suburbs it was another story. Whatever picture of COSI those voters were conjuring up—of homeless people loitering in the halls, or crowds of rowdy middle or high schoolers knocking over their toddlers—it was enough to sink the proposal.

Of course, other factors entered in as well. A general tax fatigue affects many communities, especially those with property-based school funding formulas. We had an outspoken opponent in the arts community who did what he could to derail the project. And, given the kind of town Columbus is, with a small enclave of highly successful companies and wealthy CEOs, there was a certain air of “They built it; let them pay for it.”

All of that was Politics 101, a valuable lesson about our community. But losing in such a painfully public way also forced us to look more closely at our own organizational culture. It was clear that what we had perceived as institutional pride, others had seen as arrogance and insularity. Even within COSI itself, there were rifts. Most of these dated back to the development of the new building, when hard-won staff expertise about the museum—what works and what doesn’t, what’s good to build and what isn’t—didn’t have a powerful advocating voice at the table. These were classic human-nature mistakes, to be avoided going forward.

Finding the silver lining

In the end, even a painful defeat may be a blessing in disguise. Had COSI won its levy, we would still have had to make some tough choices, but they

would have been internal choices.

Going through this very public process served to remind the Columbus community—which had, over the years, perhaps ceased to think of us as a civic institution—that COSI is theirs, that it is a nonprofit, that they have a stake in what happens to the science center. And it served to remind management and the board about the true value of inclusiveness, openness, and transparency. If a new equation needs to be written for this institution, we all have to do it together.

Happily, that is just what is happening. At COSI, we were already working to become more engaged with our community. Losing the levy jumped that effort forward. Today, I have a streamlined 11-member governing board that is very actively involved. We have inaugurated a new community advisory council, including many people new to the science center. The Friends of COSI group has changed, too. Younger, more grassroots, more inclusive, they have taken hold of running a fund-raiser this spring with a passion we haven’t seen for more than 20 years.

For me, as a leader, the levy’s defeat brought lessons as well. One is to trust my instincts and be willing to take a stand. More than once, the hairs on the back of my neck went up after a too-glib report, but I did not push my concerns forcefully enough.

A second is always to have a backup plan. Yes, planning with one or two trusted deputies what you will do if you fail, even as you are publicly presenting yourself as the emblem of success, creates a certain tension, but in the aftermath of defeat you will be glad you did. Your confidence in yourself will be shaken, you will feel you have let others down, and those who follow you may be questioning your ability. The remedy is action, and that is your responsibility. Be hurt, be shocked, but be prepared to lead. ■

Kathryn D. Sullivan, a former NASA astronaut and chief scientist of NOAA, is president and CEO of COSI Columbus, Columbus, Ohio; www.cosi.org.

Thoughts on Representing the Field

By Alan J. Friedman

Sooner or later, each of us will have the chance to represent the field of informal science education. We may be asked to testify on behalf of science centers before a panel that is setting priorities for funding from a private foundation, or before a city, state, or federal government agency, or before a professional association. In each case, representing the field requires a different approach from our usual advocacy roles, which are focused on why our particular institution is right for the task at hand.

What makes this representation a challenge is that other fields—such as formal education systems (K–12 or university), business communities, or health care communities—are likely to be advocating for their approach at the same time. These entities are vastly larger and better known than we are.

I have had the privilege of representing informal science learning and/or science centers on many occasions—locally, nationally, and internationally. I've tried to use formative evaluation, assessing how my audience responded, and adjusting my next presentation accordingly.

Here are recommendations based on what I've learned:

- **Represent the field, and not your own institution.** If people think you are “selling” services in which you have a direct personal interest, they tend to discount what you are saying as self-serving. So don't use many examples from your own institution's work, no matter how splendid you know those examples to be. I cite the work of other science centers, near and far, and resist mightily the temptation to celebrate my own institution more than once.

- **Have specific facts and figures.**

Many people advocate with general claims of competence and accomplishment, and every advocacy group can produce grand-sounding anecdotes. A few hard numbers will usually trump general boasts.

I remember the first time I heard Mark St. John report on his 1996 survey *An Invisible Infrastructure: Institutions of Informal Science Education*. Here at last were actual numbers—representing, for example, teachers trained each year in science centers. A general claim that “we do important work for teacher in-service professional development” could forever be replaced with hard, impressive numbers to prove it. Everybody in the room was madly scribbling down the figures.

Some other figures I have found to impress are these:

- Science-technology centers in the United States are a billion-dollar-a-year industry, with institutions located in every major city in the country (from several ASTC surveys, combining operating and capital expenses).

- 55 million people visit science-technology centers in the United States every year (*ASTC Sourcebook 2004*).

- 61 percent of adult Americans visit an informal science institution (e.g., zoo, aquarium, science center, natural history museum, or arboretum) at least once a year (*NSF Science and Engineering Indicators 2000*, Appendix Table 8–34).

- **Choose visual aids carefully.** A long series of images of smiling children at exhibits, or screen after screen of PowerPoint bullets, will quickly tire an audience with lots of other testimony yet to come. If I have only few

minutes to present, I use at most a couple of striking images that directly address my point. If I have 30 minutes or more, I use more images or props.

- **Explicitly recognize the value of others' approaches.**

Most often the people in the audience have their own beloved sectors to support. So you need to be careful not to put them on the defensive by appearing to claim that informal science learning is the best—or even the only—way to go. Science centers and museums are an important tool, and we work well with the others.

Overall, it is important to remember that this kind of presentation is different from speaking to your peers. In advocacy to a more general forum, we are usually talking to people who are aware of the science center in their own town and perhaps a few others; who believe that “informal” means “casual” or even “careless” (using “free-choice” helps); and who are expecting to reinforce their existing commitments, not take on new enthusiasms. So we need to start from near scratch and concisely show the scope and potential of the science center field to help our audience achieve its aims. ■

Alan J. Friedman is director and CEO of the New York Hall of Science, Queens, New York. He has represented the field of science centers and museums on panels at the National Science Foundation, the American Association for the Advancement of Science, the National Academy of Engineering, and the U.S. Department of Education, among others, and has given invited talks on free-choice science learning in cities around the world.

Calendar

THROUGHOUT 2005

- 1 World Year of Physics 2005: Einstein in the 21st Century.** *Details:* www.physics2005.org

MARCH

- 18–19 ASTC RAP Session.*** “Marketing the Contemporary Science Center.” Hosted by Orlando Science Center, Orlando, Florida. *Details:* Heidi Pinchal, hpinchal@osc.org

APRIL

- 1–30 Mathematics Awareness Month.** “Mathematics and the Cosmos.” Sponsored by the American Mathematical Society, the American Statistical Association, the Mathematical Association of America, and the Society for Industrial and Applied Mathematics. *Details:* www.mathaware.org

- 10–15 Science Centre World Congress 2005.** Hosted by the Fundação Oswaldo Cruz and the Museu da Vida, Rio de Janeiro, Brazil. *Details:* www.museudavida.fiocruz.br.4scwc/

- 13–16 Museums and the Web 2005.** Vancouver, British Columbia, Canada. *Details:* www.archimuse.com/mw2005/

- 27 Math Momentum Workshop: Measurement.** Hosted by the Children’s Museum of Houston, in conjunction with Interactivity 2005, Indianapolis, Indiana. *Details:* Keith Ostfeld, kostfeld@cmhouston.org

- 28–30 Interactivity 2005.** “The Power of Family Learning.” Association of Children’s Museums annual meeting. Indianapolis,

Indiana. *Details:* www.childrensmuseums.org

MAY

- 1–5 2005 American Association of Museums Annual Meeting.** “Museums at the Crossroads.” Indianapolis, Indiana. ASTC will sponsor a reception/dinner on Sunday, May 1. *Details:* www.aam-us.org

- 6 Space Day (U.S.).** “Return to the Moon.” *Details:* www.spaceday.org

- 13–14 ASTC RAP Session.*** “Expanding Museum Outreach Through the Use of Multi-User Environments.” Hosted by SciCentr.org, Cornell Theory Center, New York, New York. *Details:* Suzanne Kolodziej, smk@tc.cornell.edu

JUNE

- 8 Math Momentum Workshop: Data.** Hosted by the St. Louis Science Center, St. Louis, Missouri. *Details:* Gloria White, gwhite@slsc.org

- 10–12 ECSITE Annual Conference.** Hosted by Heureka, the Finnish Science Centre, Vantaa, Finland. *Details:* <http://ecsite.ballou.be/new>

AUGUST

- 2–6 Visitor Studies Association Annual Conference.** Philadelphia, Pennsylvania. *Details:* www.visitorstudies.org

OCTOBER

- 15–18 ASTC Annual Conference.** “Partnerships for Excellence.” Hosted by the Science Museum of Virginia, Richmond. *Details:* www.astc.org/conference

Ask the Sourcebook

Who receives a higher percentage of government funding—U.S. science centers or non-U.S. science centers?† Answers to questions like this, and many more, can be found in the new *ASTC Sourcebook of Science Center Statistics 2004*.

Available from ASTC Publications, the *Sourcebook* features data from the 2004 ASTC General Member Survey, representing more than 180 science center and museum respondents. Among the topics covered are attendance patterns and trends; school groups, teachers, and youth; employees and volunteers; and science center finances.

The new *Sourcebook* costs \$30 for ASTC members; \$45 for nonmembers. Shipping is extra. To place an order, write to pubs@astc.org, or call 202/783-7200 x140.

A CD-ROM, *ASTC Science Center Statistics 2004*, containing raw data from the survey in Microsoft Excel format, is available for licensed use by ASTC members only for a \$100 fee. For details, e-mail cruffo@astc.org.

†Public funds constituted 24.1 percent of operating revenue for the 137 U.S. members that responded to the survey, and 38.9 percent for the 30 respondents outside the United States.

Communicating Pacific Rim Impact

APEC (Asia Pacific Economic Cooperation) is an intergovernmental forum to facilitate economic growth and cooperation across the Asia-Pacific region. On December 4, representatives from science centers in Pacific Rim countries met in Hong Kong to scope a new three-year APEC Science Centre Impact Project. Brenton Honeyman, of Australia’s Questacon, the National Science Centre, sends the following report:

“Within the APEC region, science centers and museums have developed many exemplary programs and activi-

* Information on ASTC RAP sessions is available at www.astc.org/profdev/. For updated events listings, click on ‘Calendar’ at www.astc.org.

ties. However, although these activities are bringing about significant impacts for their local communities, they are not being communicated widely to other science centers and museums in the region. The *APEC Science Centre Impact Project* will address that need, as well as provide a strategic opportunity to communicate the valuable impacts of science centers and museums to governments, building dialogue and understanding about the contributions that science centers bring to their communities.

“The project, in cooperation with the international networks of ASPAC, ASTC, and Red-POP, will obtain, analyze, and share data about the personal, societal, economic, and policy development impacts of science centers and museums, and capture and disseminate innovative and best-practice approaches across the APEC region.”

All science centers and museums in APEC economies are invited to participate. For further information, visit www.aspacnet.org/apec, or contact Brenton Honeyman, Coordinator, APEC Science Centre Impact Project, Questacon, Australia, at bhoneyman@questacon.edu.au.

ECSITE and the EU Commission

Jean-François Hebert, president of La Cité des Sciences et de l'Industrie, Paris, and outgoing president of ECSITE, shares with us part of a report he presented at the network's 2004 Annual Meeting, in Barcelona:

“Regarding our relations with the European Union Commission, ECSITE is now well established in its services and recognized as one of the main platforms to communicate with European citizens about science and technology.

“In 2004, we have had several signs of this recognition by the commission:

- ECSITE has been invited to participate in an April conference organized by the commission's Directorate General for Research (DG Research);
- The museum directors' forum held at La Cité in March was organized with the support and participation of DG Research;
- EU research commissioner Philippe Busquin attended an EU-organized conference on the “brain drain” at La Cité in June and spoke

of ECSITE's importance in the dissemination of science and technology issues;

- ECSITE delivered to DG Research, for reference use on its web site, a demonstration CD-ROM containing best practices in communicating scientific research to the public;
- The PENCIL project, now called Nucleus, will receive EU Commission funding of around 4.5 million euros. ECSITE leads the newly configured cluster of education projects, which are funded by DG Research.”

ASTC on the Road

Planning to attend the AAM Annual Meeting in Indianapolis May 1–5? Stop by ASTC's booth in the Museum Expo to learn more about exhibitions we are traveling, and be sure to attend our evening reception, on Sunday, May 1, at the Children's Museum of Indianapolis.

Mark your calendars also for the 2005 ASTC Annual Conference, October 15–18, hosted by the Science Museum of Virginia, Richmond. Watch for details in upcoming issues of *ASTC Dimensions*, or visit www.astc.org/conference. ■

Welcome to ASTC

The following new members were among those approved by ASTC's Membership Committee in September 2004. Contact information is available in the “About ASTC” section of the ASTC web site, www.astc.org.

SCIENCE CENTER AND MUSEUM MEMBERS

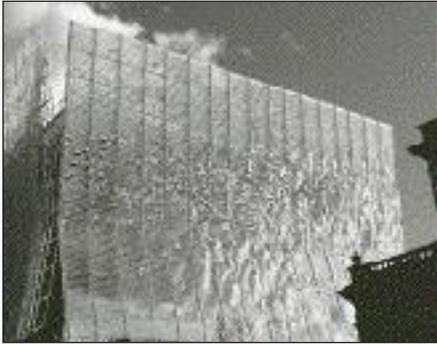
- **Computer History Museum**, Mountain View, California. Dedicated to preserving and presenting the “artifacts and stories of the Information Age,” the museum features education programs, a research center, online exhibits, and a four-story Visible Storage display center.
- **Discovery Center at Murfree Spring**, Murfreesboro, Tennessee. Chartered in 1987 as a children's museum, the Discovery Center, which includes a 20-acre wetland, has expanded its mission to include environmental exhibits and programs.

- **Exploration Station: The Irish Children's Museum**, Dublin, Ireland. Now in development, the museum is expected to open in 2007.
- **Offshore Energy Center's Ocean Star Drilling Rig and Museum**, Houston, Texas. In addition to its main facility, a converted deep-sea oil rig now moored at Pier 19 in Galveston, the museum operates an award-winning outreach program in four states.

SUSTAINING MEMBERS

- **EHDD Architecture**, San Francisco, California
- **Entertainment Technology Corporation**, Southampton, Pennsylvania
- **EwingCole**, Philadelphia, Pennsylvania
- **nWave Pictures Distribution**, Greenwich, Connecticut.

By Christine Ruffo and Carolyn Sutterfield



Ned Kahn's dynamic wind sculpture, *Articulated Cloud*, welcomes visitors to the expanded Children's Museum of Pittsburgh. Photo courtesy Ned Kahn

AN ARTFUL SPACE—A dramatic, aesthetic experience awaits visitors at the expansion of the **Children's Museum of Pittsburgh**, which opened November 6, 2004. The project joins two historic buildings by way of a new three-story structure, bringing the total floor space to 80,000 square feet—four times the museum's original size. On track for LEED "green" certification, the expanded museum gets its electricity from renewable energy sources only.

More than \$500,000 of the project's \$28.7 million budget was allocated for commissioned artworks by local and national artists. The façade of the new connecting building is a dynamic wind sculpture, *Articulated Cloud*, designed by award-winning artist and exhibit builder Ned Kahn in collaboration with Koning Eizenberg Architecture. Interactive art works located throughout the facility include *Text Rain* by Camille Utterback and Romy Achituv, which allows visitors to "catch" letters raining from the top of a video screen to form words and sentences, and *Fantastic Inflatable* by Tim Kaulen, a 15-foot-tall dinosaur made from recycled billboard vinyl.

New exhibit areas are based on the philosophy "Play with Real Stuff." They include the *Garage Workshop*, where young visitors can take apart household appliances and tinker under the hood of a real Mini Cooper, and *Waterplay*, where they can build boats and fountains. Returning as a permanent exhibition is *Welcome to Mister Rogers' Neighborhood*, a recreation of the beloved television program's set,

where visitors can work a vintage television camera, play with puppets, and ride a life-sized trolley.

Local and state government provided \$9 million for the project; private foundations and other community sources supplied the rest.

Details: Bill Schlageter, marketing director, bschlageter@pittsburghkids.org

UNDER YOUR SKIN—The ethics committee said yes. The investigator found no irregularities. Front-end visitor surveys came up positive. Thus did the **California Science Center** last July become the first U.S. venue to host *Body Worlds: The Anatomical Exhibition of Real Human Bodies*, a dramatic traveling exhibition developed by German anatomist and inventor Gunther von Hagens.

Many museums display human specimens, but the 200 exhibits in *Body Worlds*, including 25 complete bodies, are in a class apart. "Plastination," a process patented by von Hagens in the late 1970s, has rendered them dry, odorless and, in many cases, still flexible. Exhibits range from individual organs that reveal the progression of disease to dynamically posed, freestanding bodies engaged in activities like dribbling a basketball or playing chess. In the exhibition's most arresting display, one of two flayed male bodies perched astride a rearing horse displays his own brain in one hand, the horse's brain in the other.

Controversy, encouraged in part by the entrepreneurial von Hagens, has surrounded *Body Worlds* since its debut in 1997. In Europe, protesters attacked exhibits or covered them with blankets. During a 2002 London run, the anatomist defied British law to perform the first public autopsy in that city in 170 years. Religious and philosophical journals have both

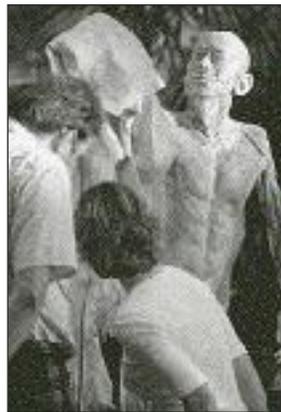
praised the intricate beauty of the displays and decried the "objectification" of the human body. And although the provenance of the exhibition's specimens is well documented, reporters have raised questions about procurement at von Hagens' processing plants in Germany, China, and Kyrgystan.

Sensitive to such concerns, the science center carefully checked out the exhibition in advance, establishing an expert bioethics panel to review content, testing visitor responses, and sending an independent investigator to Europe to view documents. The museum also set parameters for visitors: Children under 13 had to be accompanied by a parent or guardian, and some more controversial exhibits—fetuses, and the bodies of a woman and her child in the eighth month of pregnancy—were displayed in a separate area.

Body Worlds finished its six-month run in Los Angeles in January and is now at Chicago's **Museum of Science and Industry**. A record 665,000 visitors saw the exhibition in California, most of them paying a \$12 fee (museum admission is free). The response was so enthusiastic that the science center booked von Hagens' *Body Worlds 2* to follow it. Says California Science Center president Jeff Rudolph: "The use of real human bodies inspires new respect for the body and its incredible complexity... People walked away...wanting to take better care of their health."

A competing exhibition of plasticized human specimens, *Bodies Revealed*, has been developed under the direction of University of Michigan professor emeritus Roy Glover. Organized in nine "systems" of the body, the exhibition debuted in England and is currently in Korea; two versions are available from Premier Exhibitions for U.S. distribution.

Details: www.bodyworlds.com and www.bodiesrevealed.com



In plastination, embalmed or frozen specimens are treated with acetone and then impregnated with silicone rubber or epoxy. The result, as illustrated by "Skinman," is both natural and compelling.

Photo courtesy *Body Worlds*



Digging Deeper, the light-filled main gallery at Kidspace Children's Museum, houses seven exhibit areas. Photo courtesy Kidspace

FUN IN THE SUN—Outdoor activities abound at **Kidspace Children's Museum**, Pasadena, California, which reopened December 16 at its new 3.4-acre campus near the historic Rose Bowl. The Brookside Park site takes advantage of the area's mild climate, inviting visitors to explore more than two acres of gardens, waterways, and outdoor learning environments.

Along with tricycle tracks, garden carts, and a water play area, *The Back 40's* nine interactive gardens embody the museum's theme of "exploration, investigation, and expression." The gardens, designed by Nancy Goslee Power & Associates, include the Oak Grove, filled with native drought-tolerant plants; the Bumpy Fuzzy Garden, with its fun-to-touch foliage; and the Interpretive Arroyo, a model of Pasadena's Arroyo Seco, complete with flowing water and native plants.

For indoor learning, Kidspace has reclaimed three historic 1938 buildings that formerly housed the Fannie Morrison Horticultural Center. Los Angeles architect Michael Maltzan refurbished and retrofitted the once-

dilapidated structures to create spacious, glass-roofed buildings filled with an abundance of natural light.

In the *Digging Deeper* gallery, the museum's main exhibit hall, visitors to seven exhibit areas learn about fossils, earthquakes, insects, and the art of nature. Two three-story, enclosed climbing towers afford views over the complex. Later this year, construction will begin on *Building Bigger*, an additional 20,000-square-foot building designed by Maltzan that will include a theater, art and movie studios, classrooms, a robotics exhibit, and a farmers market.

Funding for the \$20 million project came from government grants, private foundations, and individual donors.

Details: www.kidspacemuseum.org

RETURN OF AN ICON—In January 1954, when the **Franklin Institute** unveiled its "walk-through" human heart, who could have guessed that the plaster and papier-mâché temporary exhibit would remain a visitor favorite 50 years later? Closed in April 2004 for the latest in a series of renovations, the giant heart reopened in October as the centerpiece of an expanded 5,000-square-foot exhibition. Upgrades include new sound and lighting effects and a 3-D monitor that recreates the experience for visitors unable to walk

through the heart on their own.

In addition to the iconic organ, *The Giant Heart: A Healthy Interactive Experience* features exhibits in four themed areas: Heart Anatomy and Physiology, Health and Wellness, Blood, and Diagnosis and Treatment. Visitors can check their own blood pressure, take EKG readings, and learn how to read a cardiograph. Cutting-edge technology includes an Abiomed artificial



A visitor favorite for 50 years, the newly updated walk-through heart at the Franklin Institute now anchors a major exhibition.

Photo courtesy the Franklin Institute

heart, robotic diagnosis of heart problems, and a recreated surgical theater, complete with a video of open-heart surgery playing inside a "patient's" chest. Audio booths demonstrate the connection between relaxation techniques and a lowered heart rate, while a talking vending machine explains the advantages of eating certain foods.

In a partnership funded by an NIH SEPA grant, nursing students from Thomas Jefferson University join museum interpretive staff on the floor to interact with visitors and give presentations on blood pressure, lung capacity, exercise, and health.

The Giant Heart: A Healthy Interactive Experience is presented by Merck & Co., Inc. and the Merck Company Foundation, and sponsored by the Heart Center at Lankenau Hospital and 6ABC. Additional funding was provided by IMLS and a variety of corporate and private donors.

Details: www.fi.edu ■

Grants & Awards

The Roger R. and Theresa S. Thompson Endowment Fund has awarded the **Children's Museum of Portsmouth**, Portsmouth, New Hampshire, \$23,000 to fund a new after-school initiative, *Museum Learning in After-School Programs*. The museum will partner with local after-school providers and provide training and materials for teachers.



The **Museum of Science**, Boston, Massachusetts, has received a \$499,918 IMLS National Leadership Grant for Museums to create, in partnership with WestEd Math and Learning Innovations, online and physical resources designed to help state educators develop action plans for implementing new K-12 school standards focused on engineering and technology.

The GCF Community Foundation, Durham, North Carolina, has provided funding for 10 benches in the new *Catch the Wind* exhibit area at the **Museum of Life and Science**, as part of the museum's commitment to accessibility for visitors.



The **Science Museum of Iowa**, Des Moines, is one of 20 U.S. museums recently awarded full accreditation by the American Association of Museums (AAM).



The Kiwanis Club of Danville Foundation has donated \$125,000 to the **Danville Science Center**, Danville, Virginia, to support the center's *Butterfly Garden and Station* and help pay for temporary traveling exhibitions.

The National Science Teachers Association (NSTA) will honor **Dennis Schatz**, vice president of education and exhibits at the Pacific Science Center, Seattle, Washington, with its Distinguished Service to Science Education Award at the 2005 NSTA Annual Convention in Dallas in April. The award recognizes members of NSTA who, "through active leadership and scholarly endeavor over a significant period of time, have made extraordinary contributions to the advancement of education in the sciences and science teaching." Schatz, who currently co-directs the Washington State LASER (Leadership and Assistance for Science Education Reform) outreach program, won NSTA's Distinguished Informal Science Educator Award in 1996.



Peter Giles, founding president and CEO of The Tech Museum of Innovation, San Jose, California, will retire March 31 after 18 years of service. A longtime member of the ASTC Board of Directors, he founded the board's Development Committee and served as its chair from 1999 to 2004. Effective immediately, The Tech's board has promoted chief operating officer **Meredith Taylor** to the

position of president. A national search for a new CEO is under way.



The Science Discovery Center (SDC) of Oneonta, at the State University College (SUC), Oneonta, New York, announces the appointment of SUC physics professor **Hugh Gallagher** and his wife, **Kelly Gallagher**, as co-assistant directors. **Al Read** continues as SDC director.



The Fort Worth Museum of Science and History, Fort Worth, Texas, has announced three senior staff appointments and four promotions. **Thomas W. Mitchell**, previously controller at Vermeer Equipment of Texas Inc., is the museum's new chief financial officer; **Judy Ivey**, formerly development coordinator at the Amon Carter Museum, is grants and annual giving coordinator; and **Margaret Ritsch**, previously associate vice president with Lipman Hearne, a Washington, D.C. marketing communications firm, is assistant director of marketing. Recent promotions include **Jim Diffily**, to curator of collections; **R.L. "Chip" Lindsey**, to vice president of creative development; **Kit Goolsby**, to vice president of education, in charge of

Museum School and Museum Pre-school; and **Colleen Blair**, to vice president of guest services.



The New York Hall of Science, Queens, announces three senior staff promotions: **Alan J. Friedman**, previously director, to director and CEO; **Marilyn Hoyt**, former deputy director for external affairs, to president and COO, and **Eric Siegel**, former director of program planning and development, to executive vice president for program and planning.



Ron Rohovit is the new deputy director for education at the California Science Center, Los Angeles. Previously director of education at the Denver Museum of Nature & Science, Colorado, Rohovit replaces **David Combs**, who has retired for reasons of health.



Larry Leatherman is the new president of the Milton J. Rubenstein Museum of Science & Technology (MOST), Syracuse, New York. A former senior director with Bristol-Myers Squibb, he had been interim director at MOST for the past year. ■



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