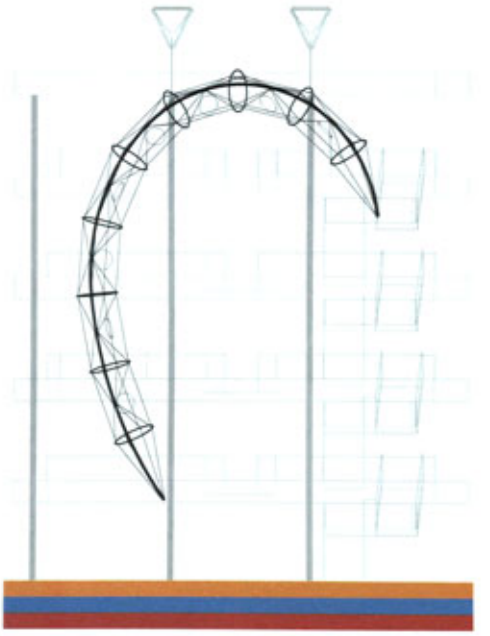
Art imitating research

Story by Dale Smith
Photos by Rob Hill

New architectural art in the Bond Life Sciences Center renders collaboration in aluminum, steel and acrylic.

Mizzou's new Bond Life Sciences Center is now home to an even newer piece of art that spans the building's five-story Alvin E. (Al) and Mary Agnes McQuinn Atrium. The sculpture, called *Joy of Discovery,* is a curvy, 110-foot-long spiral of aluminum, steel and colorful acrylic that hangs almost invisibly from two roof trusses. Up on the fifth floor, passersby can stroll just under the piece as it slices diagonally across the atrium. Then it swoops downward four floors and seems to hover in space like a high-tech hummingbird.

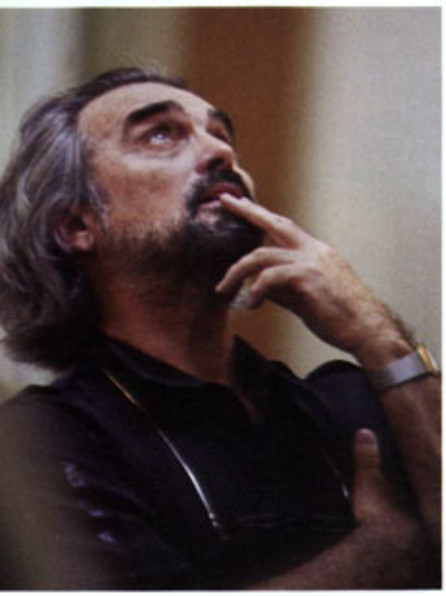
Joy of Discovery is public art, but it differs dramatically from the traditional soldier-on-a-horse style of art that anchors many a town square in America. The sculpture is what artist Kenneth vonRoenn calls architectural art. He worked not only to communicate a key idea about what happens in the building but also to enhance the architecture itself.



Soaring to the glass skylight of the Bond Life Sciences Center (left), the *Joy of Discovery* symbolizes the collaboration that is the essence of scientific research housed in the building. Suspended from the steel arches in the skylight (above), the curved sculpture sweeps over a fifth-story walkway and down to the second floor.

VonRoenn is both an architect and an award-winning artist working primarily in the medium of glass. His firm, Architectural Glass Art Inc. (againc.com) has executed hundreds of projects throughout the United States as well as in Japan, Mexico, the Caribbean, Europe and the Middle East. He recently completed what may be the world's largest glass sculpture, which crowns the top of First Union Bank in Charlotte, N.C.

Collaboration is the big idea of the life sciences building, which houses the labs of some of Mizzou's top researchers across several disciplines. Architects and planners laid out the floor plan so that researchers could meet informally in public spaces to share ideas and enhance one another's work. In the mind of the artist, the concept of collaboration took physical shape. "I had the idea of a central spine with floating circles all interconnected with the same relation to the center," vonRoenn says. Smaller discs contain images generated in research at the center, and still other parts hint at DNA, a major theme in research occurring throughout the building. (For more on the sculpture's meaning, see the sidebar on the facing page.)

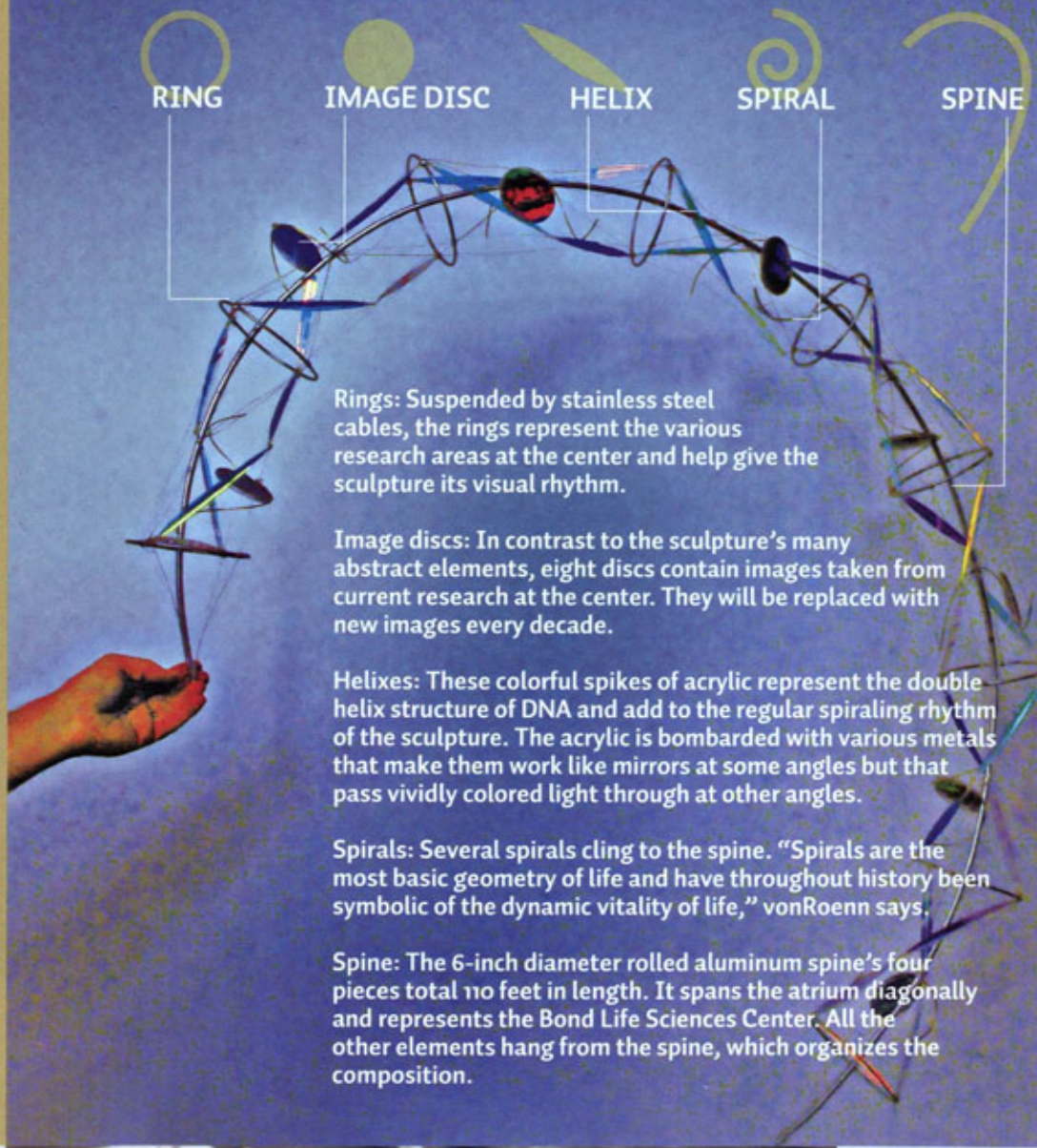


In addition to *Joy of Discovery*, artist Kenneth vonRoenn's recent projects include one of the world's largest glass sculptures, which tops First Union Bank in Charlotte, N.C.

In addition to communicating through symbolism, vonRoenn intended the sculpture to elevate the atrium's appearance. For instance, he liked how a huge skylight illuminated the space and reacted by choosing materials that turn sunlight into vivid colors and splash it around on the walls and floors. He also saw a chance to use *Joy of Discovery* as a sort of aesthetic glue to unify the atrium's two parts, which are divided by bridges on each floor. "On my first visit, I didn't feel comfortable with the bridges splitting the atrium, so I wanted to connect the two sides,"

Building blocks of art are arrayed on the floor of the McQuinn Atrium. When complete, braided stainless steel cables suspend acrylic helixes and enlarged microscope slides of current research around a brushed aluminum spine of the *Joy of Discovery*.

What the shapes mean



Rings: Suspended by stainless steel cables, the rings represent the various research areas at the center and help give the sculpture its visual rhythm.

Image discs: In contrast to the sculpture's many abstract elements, eight discs contain images taken from current research at the center. They will be replaced with new images every decade.

Helixes: These colorful spikes of acrylic represent the double helix structure of DNA and add to the regular spiraling rhythm of the sculpture. The acrylic is bombarded with various metals that make them work like mirrors at some angles but that pass vividly colored light through at other angles.

Spirals: Several spirals cling to the spine. "Spirals are the most basic geometry of life and have throughout history been symbolic of the dynamic vitality of life," vonRoenn says.

Spine: The 6-inch diameter rolled aluminum spine's four pieces total 110 feet in length. It spans the atrium diagonally and represents the Bond Life Sciences Center. All the other elements hang from the spine, which organizes the composition.

Art installer John Sastre of Architectural Glass Art Inc. attaches stainless steel cables to a ring on the sculpture *Joy of Discovery* above the fifth floor of McQuinn Atrium. High-strength cable connectors were adapted from the nautical industry.

Mary Agnes and Alvin E. (Al) McQuinn study details in aluminum and acrylic from the third floor of the Bond Life Sciences Center before the dedication of the sculpture on Sept. 25, 2007.

vonRoenn says. "My first drawing was a simple diagram that connected the two parts. Then I got the idea of being able to walk under it like a portal so that you could almost touch it."

When the McQuinns of Naples, Fla., approached MU to donate money for the sculpture, they had a request as well. "They wanted to represent the growth and continuity of science so the piece would continue to be relevant in the future," vonRoenn says. "Since science changes, the piece should also change. Every 10 years, we will replace the image discs with ones showing current work. The images that come off will become part of a new sculpture that may be set elsewhere in the building."

At the sculpture's dedication Sept. 25, 2007, Al McQuinn, BS Ag '54, voiced two desires for *Joy of Discovery*. First, he hoped the sculpture would inspire the building's researchers to do work that benefits people in Missouri and beyond. Then, evoking MU's alma mater, he said, "I also hope it brings dear old Missouri high fame."

On clear days, sunlight refracts from the multicolored helixes or transmits through the transparent acrylic material, depending on the angle of view.

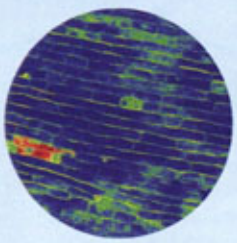
The sculpture's images

Breakaway organs

In a process called abscission, plants sometimes discard organs, such as leaves and flowers, that are infected, damaged or no longer function. In abscission, a layer of cells called the abscission zone undergoes molecular and biochemical changes that allow the organ to break free. This image highlights in green-yellow the abscission zones in the flowers of *Arabidopsis thaliana*, or mouse-ear cress. To make the image, a protein normally expressed in abscission zones was fused to fluorescent protein from jellyfish. Under ultraviolet light, the zones appear in green-yellow.

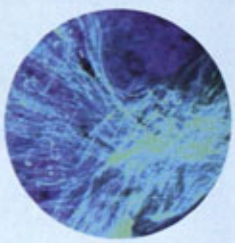
From the laboratory of John Walker, professor of biological sciences
Image by David Chevalier

Root cell walls reacting to drought



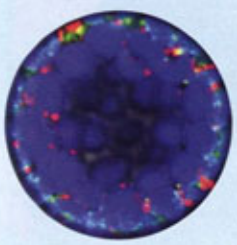
From the laboratory of Robert Sharp, professor of plant sciences
Image by In-Jeong Cho and Mayandi Sivaguru

Pollen tubes



From the laboratory of Bruce McClure, professor of biochemistry
Image by Katsu Kondo

Plant cell with fluorescent protein from jellyfish

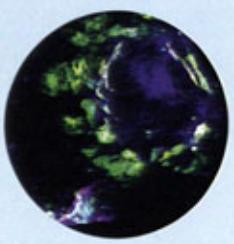


From the laboratory of Douglas Randall, Thomas Jefferson fellow and professor emeritus of biochemistry
Image by Alejandro Tovar-Mendez

M cells with a compound from the amur maackia tree

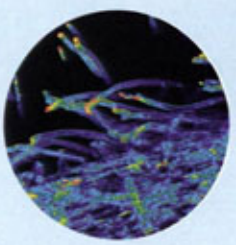
From the laboratory of Thomas Phillips, professor of biological sciences
Image by Carisa Petris

Protein (yellow to green) required for pregnancy



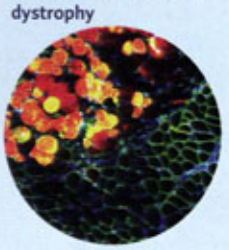
From the laboratory of R. Michael Roberts, Curators' professor of animal sciences and biochemistry
Image by Padmalaya Das

Soybean root hairs



From the laboratory of Gary Stacey, Missouri Soybean Merchandising Council endowed professor of soybean biotechnology
Image by Sung-Yong Kim

Muscle cells from mouse with Duchenne muscular dystrophy



From the laboratory of Dongsheng Duan, associate professor of molecular microbiology and immunology
Image by Dongsheng Duan

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