

This Art Has Chemistry

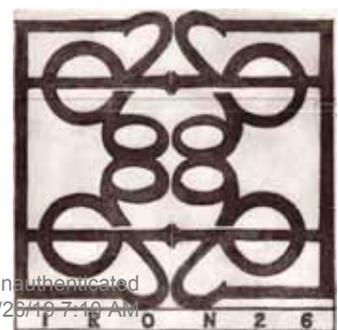
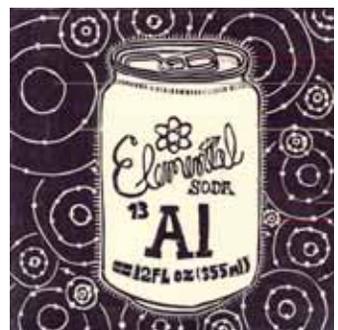
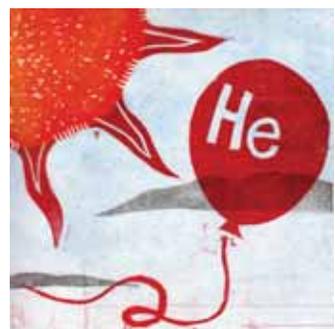
New Exhibit Kicks Off the U.S. Celebration of IYC 2011

by Chris Brouwer and Madeline Schaefer

What happens when you take contemporary art and mix in some chemistry? In the case of a new exhibit at the Chemical Heritage Foundation in Philadelphia, you get a dynamic and compelling way to experience the elements and the periodic table. *Elemental Matters: Artists Imagine Chemistry*, which opened on 4 February 2011 at CHF's Clifford C. Hach Gallery, features 15 works by seven artists as well as a group project involving nearly 100 artists. More than 250 guests attended the exhibit opening, as did the seven main artists who were on hand to discuss their works.

Ranging from graceful to moving to mysterious, the pieces comprising the exhibit explore the elements as symbol, raw material, or energy through a multitude of media: printmaking, sculpture, photography, outdoor installations, and audio recordings. *Elemental Matters* enlivens the senses with a lightness and energy belying the rather cozy exhibit space. "I don't think the space has ever looked happier," said curator Marjorie Gapp.

The exhibit is one of the key components of CHF's plans for celebrating the International Year of Chemistry 2011, and, as such, is meant to appeal to the general public as well as chemists. The inspiration behind the exhibit, according to Gapp, is to show how artists, like scientists, help us to see and understand the elemental world. This concept is clearly evident throughout the disparate works. In fact, a recurring theme among the artists and their creations is the similarity between chemists and artists.



Above and right: The Periodic Table Printmaking Project, 2007, by Jennifer Schmitt, Concord Massachusetts <www.azuregrackle.com/periodictable/table>.



Artist David Clark, Halifax, Nova Scotia, in front of *Braille* (2000).

“The one thing that bridges art and science is the use of visualization to describe your observations,” said Rebecca Kamen, one of the featured artists. “There is so much we share in common and I think it is not such a great leap. I think chemists imagine things the way artists do too. We go through steps, exploring what that is, and then use the power of observation.”

Within the pristine and lofty gallery housing the exhibit, the art feels natural and at home. As visitors enter, they are met by a series of electric-stove-top burners arranged on the wall in the shape of a periodic table. Each burner’s spiral design and unique shape is nearly mesmerizing; the rusty red tint of the metal creating a rich and engaging display. Created by David Clark of Halifax, Nova Scotia, the 10-by-14-foot piece is titled *I don’t think you understand the way I feel about the stove*. Stoves, like the periodic table, and perhaps like chemistry itself, are so commonplace and under appreciated that the use of electric burners is compelling and transformative.

Clark’s other piece, *Braille*, marries the idea of chemistry and sight; how much of what we see is due to chemical processes? Here, the periodic table has been transformed into the familiar eye-exam chart; an accompanying Braille version, with large round bubbles, dots the wall. For this work, Clark says he was inspired by a quote from Dmitri Mendeleev’s Faraday lecture.

“If I am allowed to misunderstand Mendeleev’s remarks, it is possible to imagine that he is suggesting such a thing as chemical vision,” Clark states. “What a wonderful idea to think we could touch the world with our eyes, to know the world unencumbered by signs and representations, to know what the world really is, what substance it has, what things really are.”

Central to *Elemental Matters* is a display of the entire *Periodic Table Printmaking Project*, perhaps the most vibrant piece in the exhibit. Curated by Jennifer Schmitt, this ambitious project features 118 prints of each element by 97 artists from 29 states and 7 countries laid out in its familiar grid. The result is a diverse and beautiful tapestry of color, design, and imagination. Playful and eye-opening, the prints effectively link chemistry to everyday life, pop-culture, and society.

Schmitt said she got the idea one day when “I spread all my prints out on the floor of my apartment and thought ‘They look like the periodic table.’” At a friend’s urging, she turned the idea into a project. After setting up the basic guidelines and putting out a call for artists, word quickly spread.



Songs of Which [Evelina kneeling, looking left], 2004, by Dove Bradshaw, New York, NY.



Above and below: photographs of Brigitte Hitschler’s *Energy Field 1*, a 1999 installation in Hanover-Empelde, Germany.



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The project was a natural fit for Schmitt whose mother taught high school chemistry for 30 years. And although she never wanted to be a scientist, Schmitt said her mother made learning science fun and approachable. “Knowing how the world around you works makes life so much richer.”

Schmitt says she has been told by numerous people that they wished they had something like this when they were in high school. “This [version of the periodic table] makes it easier to remember facts about the elements. It offers something to hang onto.”

German artist Brigitte Hitschler said she was always, “Very interested in natural science, especially the questions and the results, but I never studied it because I never could remember all the formulas.” Her first foray into combining chemistry and art was on a grand scale. For *Energy Field 1*, Hitschler planted



Platonic Solid: Water by Rebecca Kamen.

Although it is hard to fully appreciate *Energy Field 1* by watching a video on a small screen, it is easy to imagine the beauty of the piece and to appreciate its significance. Hitschler describes the original installation as “Very poetic. The lights would glimmer and glow at dawn and then glow a bit more at dark. When it would get very dark, all you would see was the glowing lights showing you that something was happening there.”

Allure and mystery are central to many of the works on display. The photos of Dove Bradshaw show the beauty of the human figure juxtaposed with words listing the elements inside the human body. *Herself in the Element* depicts a seated woman, poised and unclothed. On the model's bare back, Bradshaw has painted “CARBON HYDROGEN NITROGEN . . .” Words decrease in size as they descend her spine. Elements in great abundance appear in large letters, while the viewer must squint to see the minute letters that list trace elements in the body—“TUNGSTEN, URANIUM . . .”

Bradshaw explained that her inspiration for painting the elements on the human body came from another piece in the exhibit, *Self-Interest* (1999), which displays all 57 elements found in a human body in proportion to one another.

For Bradshaw, being part of a chemistry-themed art exhibit was refreshing. “For me, I like the idea of getting out of the art world. We tend to enjoy ourselves in our own little world, our cordoned-off area. Some of the works here are very imaginative, dynamic, and interesting. I particularly like the piece visualizing the sounds of the elements.”

Exhibit visitors discuss Rebecca Kamen's Atomic Flowers.



Dove Bradshaw poses with two of her works in the exhibit, КИСЛОРОД [Oxygen, in Russian] and *Herself in the Element*.

battery structures of zinc, magnesium, and copper into the slagheap of an abandoned potash mine. The long, pole-like diodes reacted with the potash salts and moisture in the earth to fuel 400 red LED lights. Visitors to the exhibit had to make do with photographs and a video of the original installation, which only existed for four weeks in 1999.

“My idea was to show the energy of this special site,” said Hitschler. “There were once so many people working in this mine, and the energy of these working people is still there in this material. And once they clean it up, people will come to get energy from this place.”

Elemental Matters Opens at CHF

The range of styles in the exhibit mirrors the vibrancy of chemistry. Composer Susan Alexander takes the electromagnetic frequencies from the atomic world and brings them within the hearing range to reveal hidden patterns and relationships. Her soundtrack for the installation *An Elemental Garden* is based on the first eight elements that would have been created in the “belly of a dying star.” The composition “starts with hydrogen, which is a very high ping, and then as the elements get created they increase in pitch.”

“I’m really proud of the fact that I was kind of a pioneer,” Alexander said of her two decades of work in this medium. The beauty and excitement of the process are what keep her interested. “When you get in there and work with the patterns and translate frequencies to sound, lots of beautiful things show up.”

One of the more stunning pieces, *Carbon, Vanadium* by Rebecca Kamen, is one of several sculptures that comprise *An Elemental Garden*. Kamen uses Mylar paper and fiberglass rods to create 3-D visualizations of the sounds of eight different elements. The transparent Mylar creates a ghostly effect when hanging from the wall. A series of these structures placed on the floor creates a new-age ghost city with spiral skyscrapers and fiberglass parking garages.

For Kamen, the periodic table mysteriously entered her consciousness after she walked in her front door after returning home from teaching a workshop in Santiago, Chile. “I thought maybe I was jet lagged at first,” she said. Intrigued, she began to explore what the periodic table meant to her. “I decided that in order to really understand it, I needed to come here [to CHF] and use the library and understand it from its inception,” Kamen said. “Then I looked at the Platonic solids and thought ‘This is the first visualization of the elements, I need to honor that.’”

Visual artist Kevin H. Jones said he felt “ecstatic” to be included in the exhibit. “We’re like kindred spirits,” he said of his fellow exhibitors. “Most people are like ‘Why are you doing this?’” In *Broadcasting to Unknown Points*, Jones took a recognizable portion of the periodic table and placed enigmatic pictures alongside element symbols.



Broadcasting to Unknown Points, 2009, by Kevin H. Jones.

Although investigating the natural world through charts and diagrams has long been a theme in his art, Jones says that his friendship with a Ph.D. chemistry student in graduate school pointed him in the right direction. “He would invite me over to his lab and I would invite him over to my studio. I realized that we were doing kind of the same thing,” Jones said. “Although he was doing hard science, I was fixing stuff together and creating something new, so there were similarities. He gave me a chart that he was going to throw out that had some burn marks on it and I remember thinking: wow, this is exactly what I’ve been looking for.”

Elemental Matters is elegant and perceptive, diverse and engaging. The exhibit asks those who experience



Dove Bradshaw's Self-Interest (1999).

it to reconsider the role of chemistry and chemical processes in our everyday lives, effectively bridging the gap between the arts and the sciences. *Elemental Matters* will be on display at CHF through 16 December 2011. 🍷

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👉 www.chemheritage.org/visit/museum/exhibits/elemental-matters