In this issue of the journal, we focus on the facilities initiative of the Daring Minds campaign, with a look at the plans for a new Millikan Science Hall, a construction update on the Studio Art Center, and a report on the Pomona and Sontag residence halls that opened in 2011.
What do studio arts and the sciences have in common? Plenty, and it’s reflected in the architecture of the new Studio Art Center and the soon-to-be rebuilt Millikan Science Hall, home to physics, astronomy and math.

These innovative new buildings are designed with an eye toward opening outward the disciplines they house and actively drawing in and engaging students from across the campus. With a premium on glass and light, both are intended to plunge even a casual visitor into an immersive experience of the discipline. In the Studio Art Center, a gallery, lecture hall, social spaces and glass-fronted studios surround a central courtyard, putting visitors at the center of the action. Similarly, in the Millikan courtyard, an outdoor physics laboratory will invite students to actively participate in life-size experiments, while the digital planetarium promises to be a destination for both the campus and the broader community.

Also reflected in these two buildings are some deeply rooted commonalities in the way the arts and sciences are taught today. Majors in both of these areas combine rigorous theoretical analysis with an emphasis on hands-on, physical engagement. This is echoed in the innovative new classroom spaces, state-of-the-art laboratories and studios that engage students in the practice of the field.

In Millikan, classrooms and common areas are designed to encourage collaborative learning by facilitating discussion and project-based work, as are new labs for the joint student and faculty research that is increasingly central to science education. Millikan also will contain a novel area for student research in mathematics, designed to accommodate multiple small groups working simultaneously, and a remote observing and tutorial room, enabling astronomy students to engage directly with the field. The Studio Art Center will dramatically increase studio space, including flex-space where students can engage in a range of creative endeavors, from performance to exhibition. Each building will contain shared technology space, including equipment that spans the eras, from 3-D printers and laser cutters to a printing press, reinforcing the emphasis on hands-on student engagement.

Given the shared emphasis in arts and sciences on collaboration, hands-on work and engagement of the broader community, it is no accident that these two new buildings share common design themes. Their architecture reflects the commitment to creativity, exploration and discovery that is the very foundation of the liberal arts.

LETTER FROM JANICE HUDGINGS, VICE PRESIDENT OF ACADEMIC AFFAIRS AND DEAN OF THE COLLEGE
Seeley W. Mudd Professor of Physics

“These innovative new buildings are designed with an eye toward opening outward the disciplines they house and actively drawing in and engaging students from across the campus.”
Hanging above the entrance to the Robert S. Millikan Laboratory is a sculpture of a simplified atom, its electrons circling the perfectly round nucleus in neatly defined orbits. Even in 1958, when the building was first opened as part of the Seaver science complex, scientists at Pomona had a far more nuanced view of subatomic structure, but in the more than five decades since then, a universe of new knowledge has opened up.

For instance, the research of Dwight Whitaker, associate professor of physics, involves creating a recently discovered form of matter known as Bose-Einstein condensates. The process requires supercooling a gas of subatomic particles using a precisely calibrated maze of lasers and lenses to reach temperatures close to absolute zero.

A fluctuation in room temperature of even a few degrees can require a complete re-calibration of the lenses that takes days. “That can really sink us,” Whitaker says. Maintaining the temperature in the old Millikan lab, which for most of its 55 years housed Pomona’s math, physics and astronomy departments, would be “extremely difficult.”
As part of Campaign Pomona: Daring Minds, the old Millikan building will be replaced by a new, state-of-the-art laboratory facility—the Millikan Science Hall. The first phase of the project is scheduled to begin this fall.

Physics department Chair David Tanenbaum says planning for a new facility began as early as 2006. The old building “was a great facility in its day. We did good science there. But the building did not have the temperature stability, the cleanliness, the quietness that would be desired to do some of the kinds of science that some of us do today,” Tanenbaum says.

Built in 1958 as part of the Seaver complex of science buildings, Millikan has shown its age in recent years. Problems include a cracked foundation and antiquated classrooms built for the ’50s—long before advanced optical and laser technologies and nanotechnology became major fields in physics and research. The College weighed whether to renovate or rebuild and found that, thanks largely to energy savings, the additional cost of rebuilding could be recouped in less than five years.

In addition to heating, cooling, ventilation and utility systems that will embody half a century of technological improvements, the new three-story 75,000-square-foot Millikan Science Hall will include a digital planetarium that will offer a 360-degree projected view of the night sky.

“The planetarium is a big part of our department culture,” says Claire Mackay Dickey ’14, a physics major specializing in astrophysics and astronomy who was on the committee that discussed specifications for the new building. “Having the planetarium means we can bring the big ideas that we’re studying to life for our students.”

The planetarium’s immersive projection space will be used to explore visual data by scientists of all disciplines. In addition, Pomona officials plan to use the planetarium to reach out to the surrounding community by holding cultural events there.
Fletcher Jones Foundation Awards $1 Million for New Digital Planetarium

By Daniel Gould

Pomona College has been awarded a $1 million grant from the Pasadena-based Fletcher Jones Foundation to fund the construction of a digital planetarium for the new Millikan Science Hall. The gift will provide the College with an immersive learning and presentation space that can be used in all disciplines.

"With this generous grant from the Fletcher Jones Foundation, the College will be able to take a huge step forward in innovative technology and teaching," says David Oxtoby, president of Pomona College.

"More than a planetarium, this digital immersive theatre not only will be an invaluable resource for exploring the night sky and making abstract concepts in physics, astronomy and mathematics come alive, but also will transform learning across the liberal arts."

Equipped with advanced technology for high-resolution imaging, the 360-degree theatre will provide opportunities for teaching and research in a range of disciplines. Music classes will be able to use the space to translate sound into visual images. Art students can view sculptures and buildings from different perspectives, while classes in neuroscience can delve into full-view renderings of brain scans.

With the arrival of the new digital system, Pomona's previous projector and planetarium, which was purchased through a grant awarded by Fletcher Jones in 2001, has been donated to The Webb Schools, a private independent high school in Claremont, Calif. The Webb planetarium also will be open to visits from local public schools, including students in the physics program at Claremont High School.

Bryan Penprase, Frank P. Brackett Professor of Astronomy, views the donation as an important example of the College's engagement with the larger community. "We have a responsibility to contribute," he says.

New physics labs will be designed to better accommodate individual research by students and faculty, including projects that couldn’t have been imagined 50 years ago, such as new techniques to measure temperature through photography; high-speed cameras (up to 100,000 frames a second) to record the explosive opening of seed pods; and the ability to grow nanotubes.
The new Millikan Science Hall will reflect more than changes in just technology. The philosophy of teaching has changed over the years as well.

“There’s more demonstration and more activity in class,” Tanenbaum says. “We’ll have classes where the faculty member will be in and amongst the students, working in different groups and floating from group to group. That’s very hard to do in a room that doesn’t have more flexible seating arrangements.”

Dickey agrees: “There was a lot of discussion about making sure that the new Millikan would be a building that would last more than 50 years. Professors teach in a really specific way right now, focusing on collaborative learning and thinking. … So we spent a lot of time focusing on how we can make Millikan hold the most potential for many decades to come.”

Science at Pomona has not only become more collaborative, but more hands-on, with a far greater emphasis on research. In the new science building, the machine shop, which will serve all of the College’s science departments, will allow students to use computers to design their research tools. “We’re putting in 3-D printers and laser cutters and scribers,” Tanenbaum says.

Half a century ago, undergraduate science students would usually perform the same experiments everyone else did, using a set lab manual. “Now we have students who are building unique things that have never been built before,” he says. “We’re giving people the opportunity to do more creative things, and less cookbook things.”

Although the new Millikan will make it easier for each individual professor to keep things colder, it will be a warmer place overall, says Professor Jo Hardin ’95, associate professor of mathematics and chair of the department.

“The new Millikan will have a large amount of natural light and openness. The front entry will feel welcoming and will draw people in to both the mathematics and physics departments,” she says. “The outdoor courtyard also promises to be a place for the larger college community to come together.”

Most important, the building will enhance the College’s math and science programs, Hardin adds, with a design that “will encourage intellectual activity in a way that the old space didn’t.”

However, one thing about the new Millikan will remain the same—Albert Stewart’s atom sculpture will still hang over the entry, this time in front of a second-story window. And, says Tanenbaum, “You’ll be able to see it from the inside and the outside.”
On schedule to be completed by the end of next summer for the start of the 2014 fall semester, the Studio Art Center will more than double the space for studio arts. Located north of Seaver Theatre and near the Wash, the 36,000-square-foot center will surround a central courtyard and feature studios for painting, drawing, sculpture, digital arts and photography, as well as classrooms, a gallery and cutting-edge facilities for printing, fabrication and digital output.

Excavation for the foundation began in January 2013, with the basement finished three months later. By the end of this year, Hamilton Construction will have completed the steel framework, including laying the beams for the building’s curved roof. The construction company also has started installation of the exposed polished concrete flooring and will begin work next year on the exterior walls, which will be 60 percent glass.

Sustainability will be a key feature of the center, with Pomona setting a goal of building to LEED (Leadership in Energy and Environmental Design) Gold standards. Using regional materials and Forest Stewardship Council certified wood, and installing photovoltaic panels are among the steps the College is taking to achieve that designation.

The College is seeking a naming gift for the Studio Art Center, as well as funding for additional spaces and support. Generous gifts to the center have been received to date from the following:

- The Ahmanson Foundation
- Erik and Edith Bergstrom ’63
- Bernard Charnwut Chan ’88
- Estate of Pamela T. Creighton ’79
- The Hearst Foundation, Inc.
- Craig A. MacLeod ’72 P’07
- George ’82 and Cristina McQuistion
- Ann Moseley Morris ’56
- Mike ’56 and Anne Morris
- June ’62 and Carl Phelps

Designed by the Culver City-based why Architecture, the $29 million Studio Art Center will reflect a more modern, integrated approach to the arts and provide space for interdisciplinary teaching.
IN THE TWO AND A HALF YEARS SINCE POMONA AND SONTAG HALLS OPENED, the new residences have had a significant impact on campus life. In addition to providing much-needed housing for students, the halls also have given a new prominence and visibility to outdoor recreation and education and to issues of sustainability.

“My favorite thing about Pomona Hall is the common room setup. It was a lot of fun to really make the space into our own, and it provides an area for us to hang out, work and relax.”

—LOGAN GALANSKY ’14

The common rooms are fantastic and have created a great space for gatherings, whether I’m doing homework with my biology group or listening to my suite-mate’s a cappella group belt out melodies at their mixer turned dance party.”

—LAUREN PENFIELD ’14

AWARDS

and recognition for Pomona and Sontag Halls

2011: Certified as LEED Platinum by the U.S. Green Building Council, the highest level recognized for sustainable building through the Leadership in Energy and Environmental Design criteria; Pomona and Sontag are the first residence halls in California to receive LEED Platinum

2012: Named among “10 Greenest Dorms in the World” by Student-HousingPlanet.com

2012: Honored as one of the “biggest, best and most notable commercial real estate projects” by the Los Angeles Business Journal

2013: Recognized with the 2013 Green Good Design award by the European Centre Architecture Art Design and Urban Studies and the Chicago Athenaeum Museum of Architecture and Design

Since the summer of 2011, the halls have been filled to capacity, housing 153 seniors during the academic year and another 153 students conducting research on or near campus during the summer as part of the Pomona College Summer Undergraduate Research Program. Three staff members and their families also live in the residence halls.
OUTDOOR
Education Center

Located in Pomona Hall, the Outdoor Education Center (OEC) supports Orientation Adventure, On the Loose and other outdoor trips with guides and equipment; provides outdoor leadership certification courses; offers workshops, classes and events; houses a library of outdoor education books and maps; and has a collection of gear available for checkout, ranging from stoves and mountain bikes to surfboards and kayaks.

OEC by the numbers: a partial listing
• 75 visitors a week
• 420 first-year and international students for Orientation Adventure each year
• 500 On the Loose trips each year
• 58 students in Wilderness First Aid courses each year
• 20 faculty and students on geology/astronomy/anthropology field trips each year

SUSTAINABILITY

With a rooftop community garden, real-time monitors of energy use and features like operable windows and drying racks in the laundry rooms, students in Pomona and Sontag halls are encouraged to be active participants in conserving energy.

An innovative treatment system returns storm water runoff from across North Campus to the Wash and into the underground aquifer that supplies water for the Claremont area.

The rooftop solar system has two types of renewable energy: solar photovoltaic arrays, which produced 16 percent of the total electricity used by Pomona and Sontag Halls in 2012-2013 and a solar thermal system for heating water for Sontag Hall, which produced 78 percent of the heat used in the building last year.

Producing energy for the residence halls also has an environmental impact, with the solar photovoltaic and thermal systems averting approximately 35 metric tons of carbon dioxide equivalent each year.

GIFTS
Sontag Hall
Rick HMC ’64 and Susan ’64 Sontag P’95 lead gift
Kappa Delta Lounge
Kevin Hickey ’99
Matt Gold ’91
Jared Mathis ’94
Bob O’Leary ’93
David Pfaff ’92
Lounge
Peter Sasaki ’91

Pomona Hall
Anonymous lead gift
Lounge
John ’78 and Evelyn Popp
Outdoor Education Center
Aramont Foundation

“It is really nice to live more sustainably while I simultaneously learn more about sustainability and its potential through experiencing the building.”
—LAURA MUNOZ ’14

“The best thing about the new dorms is the kitchens and lounges where there is so much room to spread out and cook meals. Another huge benefit is how much easier and more reliable the new appliances are to cook with. The lounges themselves are quiet and a little bit cozy, so the couches are a great place to eat some cheese before dinner and read a book.”
—FRANCES KYL ’14
LOVE OF MUSIC INSPIRES SCHOLARSHIP AWARD

By Paul Sterman ’84

Lola Jensen started playing piano when she was 8 years old and soon became very skilled. It was a gift she never let go of, says her son, Gordon Jensen, who recalls hearing his mom play piano when she was 92—just a few weeks before she died.

“She was smooth as silk,” he says.

His mom, who worked for nearly 30 years training elementary school teachers in Los Angeles, particularly loved playing classical music and church hymns, says Gordon. “It was an outlet for her emotions,” he adds.

To honor his mother’s memory, Gordon and his wife, Bette, have established a scholarship fund for a Pomona College music student with gifts so far totaling $215,000. Neither Gordon nor Bette attended the College, but the retired couple has been establishing annuities through the Pomona Plan since 2005.

The couple, who have been married for 51 years, live in Banning, Calif. Before retirement, Gordon worked as a police detective and adoption specialist, while Bette worked at Union Oil of California for 36 years.

“I couldn’t have done this without her,” he says of establishing the scholarship fund.

Previously, the Jensens had established annuities with the Salvation Army, which offered a similar plan. But they switched to the Pomona Plan because its “annuities are as good as any in the U.S.,” says Gordon. “I did research and found out this was a better fit for us.”

Gordon was head juvenile detective in the Beverly Hills Police Department for several years, and then worked for more than two decades, investigating thousands of adoption cases for the Superior Court of Los Angeles County. He also had a personal connection to a certain iconic movie star, dating back to 1939 and Jensen’s first day at Emerson Junior High School in Los Angeles.

“I saw a girl coming up the steps to the school,” he recalls. “I said to myself, ‘Jeez, she’s cute.’ I walked up to her and said, ‘Hi, I’m Gordon Jensen, I wanted to introduce myself to you.’

“She smiled and said, ‘My name is Norma Jean.’”

The future Marilyn Monroe became “a friend and young love,” says Jensen. “I really cared about her.”

Jensen shared his mother’s love of music. In high school, he sang in an a cappella group that performed at campus parties. When Richard Chute, Pomona College’s Regional Director of Trusts and Estates, paid Gordon and Bette a visit in Banning last April, he brought along Genevieve Lee, Pomona’s Everett S. Olive Professor of Music. Over lunch, Gordon sang to Professor Lee, crooning the popular World War II-era song “Tangerine.”

Her reaction?

“She said I was a pretty good singer.”
State of the Campaign

Campaign Pomona: Daring Minds has raised $194,642,962 in gifts and pledges toward its goal of $250 million.

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<tr>
<th>Campaign Initiative</th>
<th>Goal</th>
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<tr>
<td>Increasing Affordability for Deserving Students</td>
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<td>Strengthening Teaching and Learning</td>
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<td>Enhancing Critical Facilities</td>
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Updated, Nov. 20, 2013

Giving to the Campaign

www.pomona.edu/daring-minds/giving

Campaign Pomona: Daring Minds offers a unique opportunity for alumni, parents and friends of the College to play a role in launching an exciting new era in Pomona history. The success of this ambitious effort will depend upon gifts of many types and every size, from people from all walks of life.

Annual Fund Gifts

Gifts to the Pomona College Annual Fund touch the lives of every Pomona student through scholarships, support for faculty, and funding for programs that bring faculty and students together. Strengthening the Annual Fund is essential to maintaining Pomona’s place among the finest liberal arts colleges in America.

Endowment Gifts

Gifts for endowment provide lasting support for Pomona’s people and programs and play a key role in ensuring that Pomona will always be true to its promise to provide a world-class education to its students, regardless of their ability to pay. This campaign offers numerous naming opportunities for endowments to support student scholarships, faculty fellowships, student research and student internships and a range of programs and opportunities.

Capital Gifts

Capital gifts fund the construction and renovation of up-to-date facilities that play a crucial role in the educational process. This campaign offers a range of naming opportunities for those who want to see their contribution transformed into spaces and equipment that will help educate future generations of Pomona students.

Planned Giving

The Pomona Plan offers donors the opportunity to make significant charitable gifts to the College while taking advantage of current tax incentives and meeting the future needs of their own families. Planned gifts include bequest provisions and a range of income-providing annuities and trusts.

Pledges

Pledges allow Pomona donors to make a generous commitment to the campaign over a period of up to five years.

Whom to Contact

**Gifts to the Annual Fund:**
Michael Spicer, director 1-888-736-9425; www.pomona.edu/give

**Gifts to Endowment or Capital Projects:**
Craig Arteaga-Johnson ’96, assistant vice president, 909-607-7441

**Planned Giving (The Pomona Plan):**
Robin Trozek, senior director, 909-621-8143 or 1-800-761-9899; pomonaplan@pomona.edu

For more information about the Daring Minds campaign and to track our progress, go to: www.pomona.edu/daring-minds

This year, HONOR YOUR FAVORITE SAGEHEN WITH A GIFT TO THE ANNUAL FUND

Has someone at Pomona made a difference in your life? A favorite professor, funniest classmate, or helpful staff member? Make your favorite Sagehen’s day by giving a tax-deductible gift in his or her honor—and together you will be making a difference for more than 1,500 current students. That’s what we call Sagehen spirit!

www.pomona.edu/give
A rebuilding home for physics, astronomy and math will offer state-of-the-art classrooms and labs built to green-friendly standards.

A NEW MILLIKAN FOR A NEW ERA