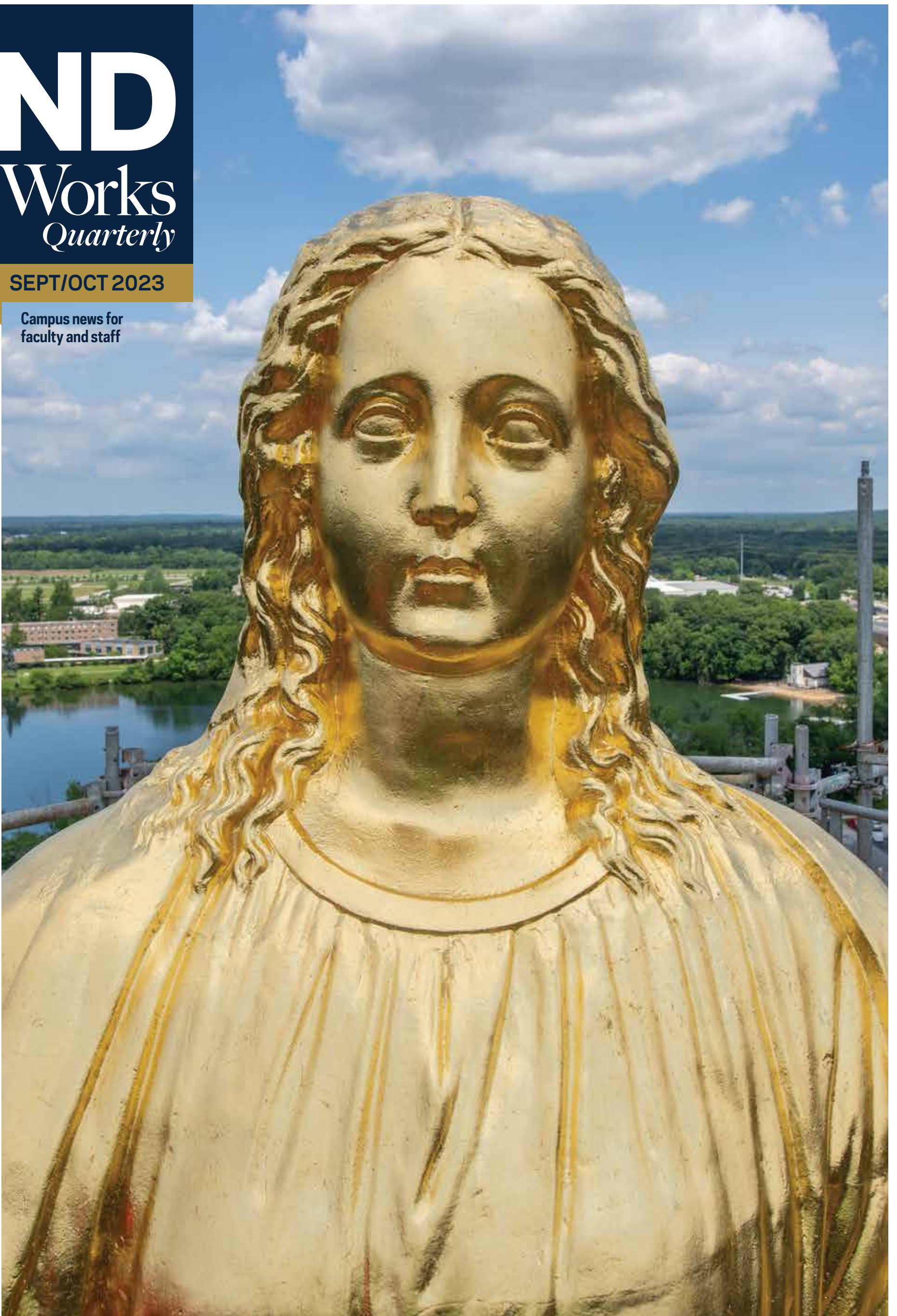


**ND**  
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*Quarterly*

SEPT/OCT 2023

Campus news for  
faculty and staff



# GOLDEN HOUR

An up-close, personal look at the 12th Golden Dome regilding

UNIVERSITY NEWS

NEWS BRIEFS

NOTRE DAME JOINS ASSOCIATION OF AMERICAN UNIVERSITIES

Notre Dame was selected for inclusion in the Association of American Universities (AAU), a consortium of the nation's leading public and private research universities, Rev. John I. Jenkins, C.S.C., president, announced June 1.

"While Notre Dame has long been known for its undergraduate education, we have striven to be a preeminent research institution with superb graduate education, all informed by our Catholic mission," Father Jenkins said. "We are honored to be invited to join the AAU and heartened by the AAU Board's recognition of our progress as a research university, and we look forward to participating in this august organization."

Founded in 1900, the AAU seeks, according to its mission statement, to "collectively help shape policy for higher education, science and innovation; promote best practices in undergraduate and graduate education; and strengthen the contributions of leading research universities to American society." Membership is by invitation only and based on an extensive set of quantitative indicators and qualitative judgments that assess the breadth and quality of a university's research and graduate and undergraduate programs.

Notre Dame has made significant strides in recent years as a research institution. Since 2007, research awards received have grown 194 percent.



A "Tom Mendoza Presents" panel discussion took place the day prior to the Notre Dame-Tennessee State football game. (Photo by Matt Cashore/University of Notre Dame)

ANNUAL RESEARCH FUNDING TOPS \$200 MILLION FOR THIRD STRAIGHT YEAR

The University received nearly \$216 million in new research award funding during fiscal year 2023, topping \$200 million for the third year in a row.

This total includes 824 separate awards, the largest number the University has ever received. Jeffrey F. Rhoads, vice president for research and professor in the Department of Aerospace and Mechanical Engineering, said, "We are grateful to all of the agencies, foundations, industry partners and others who have supported research at the University — research that is not only leading to new discoveries, but is helping to create a safer, healthier, more sustainable and more equitable world."

Rhoads added, "Credit ultimately belongs to the dedicated Notre Dame faculty members and students who received the awards and are committed to using every

dollar to have the greatest possible impact."

FOOTBALL WEEKEND EVENTS CENTER HISTORIC MATCHUP WITH TENNESSEE STATE

Though distinct and celebrated universities in their own right, the values and histories of Notre Dame and Tennessee State University align in many ways, including shared commitments to educational access and equity, civil rights, service and building community among students.

That said, the two schools — one a leading Catholic research university, the other a historically Black land-grant institution — have never met on the football field.

That changed on Saturday, Sept. 2, when the Fighting Irish hosted the visiting Tigers at Notre Dame Stadium.

But it wasn't all about football. In addition to the normal gameday activities and traditions, the University offered a number

of unique campus events focused on Historically Black Colleges and Universities (HBCUs) history and future outlook as well as cultural enrichment, community engagement and individual and collective education.

PETE BEVACQUA TO SUCCEED JACK SWARBRICK AS ATHLETICS DIRECTOR IN 2024

Pete Bevacqua, a 1993 alumnus, recent chairman of NBC Sports and a highly regarded leader and innovator in the world of sports, joined the University on July 1 and will succeed Jack Swarbrick as vice president and James E. Rohr Director of Athletics when he steps down in 2024. Bevacqua currently serves in the role of special assistant to the president for athletics, benefiting from the mentorship of Swarbrick before he assumes leadership of the Athletics Department.

Bevacqua will bring world-class leadership and high acumen to the rapidly changing landscape of live and on-demand sports content and sports management. As the third chairman in the history of NBC Sports, Bevacqua led NBC Sports in its unprecedented collection of assets and platforms, which included NBC Sports, NBC Olympics, the Golf Channel, NBC Sports Digital, NBC Sports Next and NBC Sports on Peacock. He also has been the network's chief steward of NBC's unique, exclusive broadcast rights agreement with Notre Dame football, now entering its 33rd season.

PEDRO RIBEIRO APPOINTED VICE PRESIDENT FOR PUBLIC AFFAIRS AND COMMUNICATIONS

Pedro Ribeiro, most recently senior vice president for communications and public affairs at the Association of American Universities (AAU), joins the University in October as vice president for public affairs and communications. During his tenure at the AAU, Ribeiro managed and directed the association's communications, advocacy, campaign and public outreach activities and strategies. He was responsible for advising the AAU president, board and member presidents and chancellors on advocacy strategies to highlight and strengthen the public service missions of AAU member institutions.

As vice president, Ribeiro will provide strategic communications and governmental relations advice to the president and other senior University leaders, communicating about and advocating for the mission and priorities of Notre Dame. He will oversee the offices of public affairs, University communications and Notre Dame Magazine.

TWO VICE PRESIDENTS AND ASSOCIATE PROVOSTS NAMED

Ronald Metoyer, a professor of computer science and engineering and associate dean for diversity and faculty development in the College of Engineering, now serves as vice president and associate provost for teaching and learning.

Margaret Meserve, the Glynn Family Collegiate Professor of History and co-director of the Glynn Family Honors Program, was appointed vice president and associate provost for academic space and support.

In his new role, Metoyer oversees Notre Dame Learning, which includes the Office of Digital Learning, the Kaneb Center for Teaching Excellence and the Office of Learning Analytics. He leads the University's approach to innovative pedagogical and learning strategies, including online/digital learning, inter-institutional collaboration and experimental models for the future of education.

Meserve works with the University architect's office to help manage major new projects for academic units, including new buildings, renovations and moves. In addition, she manages plans for backfill, swing space and efficient use of existing space on campus and sets priorities for the upgrade and repair process.



Bevacqua

Ribeiro

Metoyer

Meserve

GOLDEN HOUR

The heart of Notre Dame

The history of the Main Building tells the story of the University

By Brendan O'Shaughnessy, Brand Content

The adolescent students known as minims were the first to notice flames curling from the roof on April 23, 1879, and they raised the alarm by yelling, "The college is on fire."

The Main Building was nearly the whole college then: It contained the dining halls and kitchen, study halls and classrooms, dormitories and offices. The students, priests and lay teachers lived there. The sixth-floor chapel was topped by a tin-clad dome painted white, supporting a 2,000-pound statue of the Blessed Virgin.

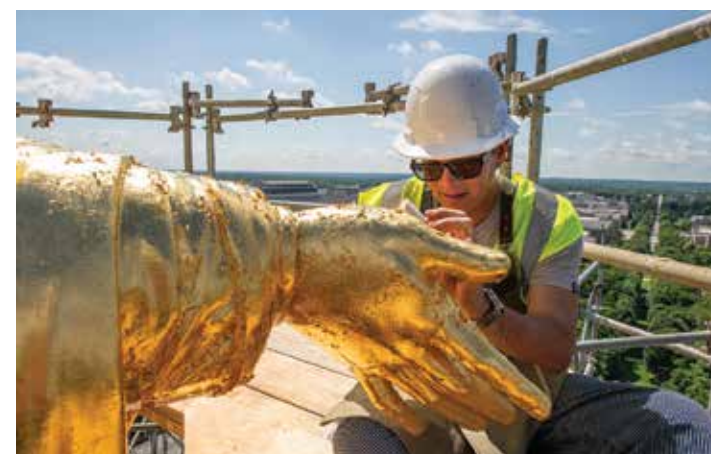
Students and teachers raced through the building, throwing furniture, books and belongings out the windows, only to have the broken piles catch fire when the cornices collapsed on them. The fire reportedly ate away the dome supports until the statue crashed down on the building's interior, spreading the fire and ending all hope

of saving the building.

In three hours, the college was gone. Miraculously, no one was killed or badly hurt. Rev. William Corby, C.S.C., then serving his second stint as president, sent the students home but promised that Notre Dame would be rebuilt and open on time the next year.

Three days later, Rev. Edward Sorin, C.S.C., who had come to the frozen forests of Indiana as a young man with \$310 and a zealot's dream of founding a great Catholic university, returned from a trip to find his life's work destroyed.

Viewing the still-smoldering rubble, law professor



Michael Prettyman from Conrad Schmitt Studios gilds the right hand on the statue of Mary atop the Golden Dome. (Photo by Barbara Johnston/University of Notre Dame)

Timothy Howard wrote, the 65-year-old founder "stiffened" rather than bent. He would later be seen pushing a wheelbarrow full of bricks. He called the community into the church to deliver what Howard called "the most sublime words I ever listened to."

"There was absolute faith, confidence, resolution in his very look and pose. 'If it were ALL gone, I should not give up!' were his words in

closing. The effect was electric. It was the crowning moment of his life. A sad company had gone into the church that day. They were all simple Christian heroes as they came out. There was never more a shadow of doubt as to the future of Notre Dame."

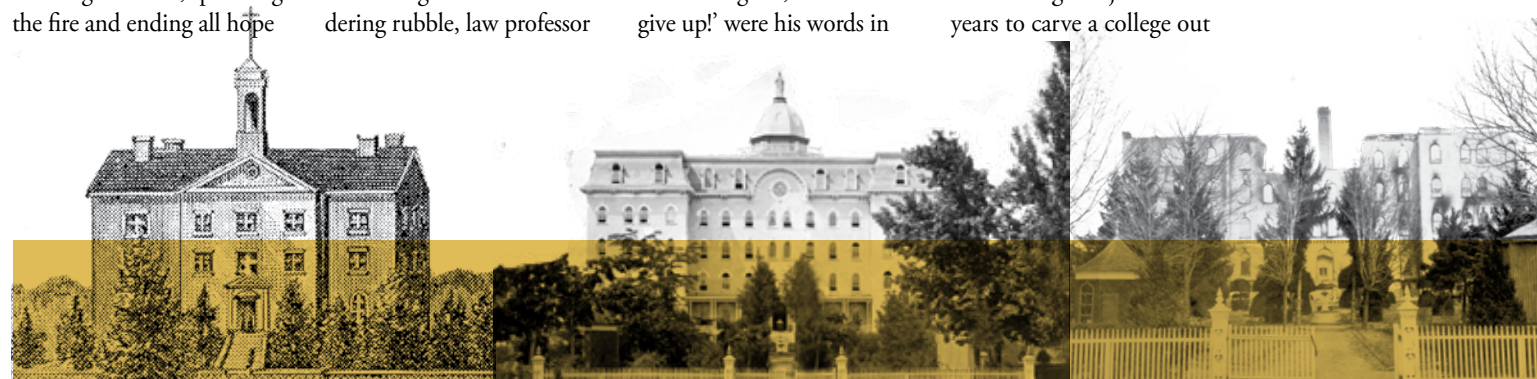
The rebuilding parallels the ambitious origin of the University, when Father Sorin was given just two years to carve a college out

of the wilderness. An architect was chosen by May 15 and the cornerstone blessed four days later.

Three hundred laborers worked nonstop for three and a half months, laying 4.3 million of the trademark yellow bricks the religious brothers formed from the marl of St. Mary's Lake. Notre Dame opened for students in early September, though the famous Golden Dome would have to wait for another Sorin miracle.

If the Basilica of the Sacred Heart represents the soul of Notre Dame, then surely the Main Building and its ubiquitous symbol of the Golden Dome is the beating heart of the campus, pumping vigor and purpose to the interlaced arteries of an academic community.

This is its story.



Main Buildings 1-2

The founder of the Congregation of Holy Cross, Blessed Basil Moreau, sent Father Sorin from France to America to found a new college. In the early 1840s, Father Sorin found himself in the western frontier of Vincennes, Indiana.

The bishop there did not want Father Sorin competing with his own local plans, so he gave the ambitious 28-year-old 250 acres — and the two-year timeline — in northern Indiana where Father Sorin was planning. But to save money, the roof of the standing building was removed in 1865 and two more stories and a new mansard roof added. Brickmaking was one of the first industries of the religious, and the kilns were by then firing 800,000 a year. Tuition at the time was \$100.

du Lac, Our Lady of the Lake.

Father Sorin had arranged for a Vincennes architect to erect an administration building even before he had any students or food to feed them. The architect that summer began a four-story college that opened in 1844.

The structure that burned in 1879 was actually the second Main Building. As the student body grew during the Civil War, a new building was planned. But to save money, the roof of the standing building was removed in 1865 and two more stories and a new mansard roof added. Brickmaking was one of the first industries of the religious, and the kilns were by then firing 800,000 a year. Tuition at the time was \$100.

The rebuilding

There are no pictures of the fire, but South Bend photographer James Bonney made five stereograph images of the aftermath. The University's loss was estimated at \$250,000, and the second Main Building was insured for only \$40,000.

Crisis brought out the best in Father Sorin. A staunch supporter of American free enterprise, he announced an architectural competition to design the new Main Building. By May 15, he chose Chicago architect Willoughby Edbrooke.

Father Sorin resolved to have a more impressive statue and dome, modeled on St. Peter's in Rome. He admired the Immaculate Conception statue in the Piazza di Spagna. He asked Chicago sculptor Giovanni Meli to

make the 17-foot, 4,400-pound replica, which was financed by the sisters, students and alumnae of Saint Mary's College. It was completed in 1880 and waited on the porch of the Main Building until the dome was completed three years later.

The wings were added to the building in 1884, expanding it to its current size. In his Notre Dame history, Rev. Thomas Blantz, C.S.C., writes, "Gilding the dome produced a major crisis." After the costly construction, the college leadership council wanted to paint the dome yellow or gold.

Father Sorin insisted it be gilded with actual gold, regardless of the expense. The council refused, so Father Sorin as provincial made himself the council's chairman and promptly

moved to a room at Saint Mary's College. Without its chairman, the council couldn't meet or conduct Holy Cross or college business.

The council eventually relented, and while they may not have appreciated his methods, the founder's vision and marketing intuition proved prophetic again. First gilded in 1886, the Golden Dome would become the universal symbol of Notre Dame, instantly recognized worldwide.

The regilding

About 140 years later, the Main Building has changed very little other than a major restoration in the late 1990s. This is the 12th time the Dome has been gilded: 1886, 1893, 1904, 1912, 1924, 1933, 1948, 1961, 1971, 1988 and 2005.



Note from the Editor

Jenna Liberto, Director of Internal Communications

Among the collection of breathtaking photos captured during the 12th regilding of the most recognizable structure on campus, there's one that unexpectedly touched my heart. You'll see it on this page, and it shows the delicate application of gold to Mary's hand, the rest of her body obscured from view, the body of the artisan mostly obscured by the enormity of Mary's hand.

I didn't realize she was that big.

Yes, I know my Notre Dame trivia — Mary is 17 feet tall — but from my typically limited viewpoint, I imagine her as my size. It's not the first time I've thought about Mary's life in relation to my own. How must it have felt to be given an enormous task, beyond her comprehension, by God Himself. Maybe it made her realize how big God really is.

When we began documenting the regilding of Mary and the Golden Dome, we were inspired by the history, the process and the people doing the work. Answering questions of how, why and who took our storytelling teams from the archives to the classroom. From the study of science to art. And, of course, from the ground to 197 feet up in the air.

We wanted to give you a perspective that only presents itself every couple of decades and an up-close view few get to have. The question I hope we ended up answering, along with the hows and whys, is this: "What did it feel like to be part of this moment in time?"

We hope you have your own answer to that question, through the photos you took and the memories you captured this summer. To add to those, our gift to you is this story — one you can hold in your hand. Maybe not as big as the real thing. But, precious, because it was written with you in mind.

2023 United Way Campaign for faculty and staff October 9 to December 1 unitedway.nd.edu UNITED AS ONE

Contact Us

- Natalie Davis Miller, Managing Editor; Jenna Liberto, Director of Internal Communications; Brittany Kaufman, Copy Editor; Jennifer Laiber, Electronic Media Coordinator; Elissa Chudzicki, Senior Graphic Designer; Matt Cashore, Senior University Photographer; Barbara Johnston, University Photographer.

## GOLDEN HOUR



(Photo by Barbara Johnston/University of Notre Dame)

# Staying gold

By Jessica Sieff, Media Relations

Bryon Roesslet has done the math. ... You're putting gold on at a completely different pace. The procedure is really good craftsmanship."

With more than 30 years and 70,000 hours of gilding experience, the architectural conservator and senior artist at Conrad Schmitt Studios Inc. has restored murals, sacred spaces, federal buildings and historical interiors all over the country.

"On average, you're up and down a 25-foot scaffold every two hours or so, which is probably on the low side," he said. "It's the equivalent of going up and down Mount Everest 30 times from sea level."

It's grueling, yet delicate work. "With gold and gilding in particular, I think the main thing that you learn is that it's different when you get into it from what the expectation is," Roesslet said. "It's not all sitting with a tiny little square of gold and a little leather pad and a little knife and picking up a leaf at a

time. ... You're putting gold on at a completely different pace. The procedure is really good craftsmanship."

In addition to that craftsmanship, gilding is a trade that demands patience, focus and stamina.

The physical aspects of the job can't be disregarded, according to Jill Eide, a historic preservationist at Conrad Schmitt who specializes in gilding. Eide has been in the trade for 25 years. She and Roesslet were among the first of the Conrad Schmitt team to start work on the 12th regilding of the Main Building's Golden Dome.

"Some (jobs) are cakewalks and easy," Eide said. "And some you're dealing with elements and the physical aspect of it, which takes a toll on us."

This is Eide's fourth dome. She has gilded state capitol domes in New Hampshire, Maine and Colorado.

## It's part art, part endurance sport.

Maneuvering around the scaffold, sweating through hot days, fighting wind and weather, this particular project was no cake walk.

A thunderstorm might prompt an evacuation of the site. A rainy day could slow the work. Even sunny days are unpredictable, with winds carrying bits and pieces of micron-thin gold leaf across campus.



(Photo by Barbara Johnston/University of Notre Dame)

This trade was part art, part science — part endurance sport.

### The gold standard

To cover the Dome (approximately 6,500 square feet) and the 17-foot-tall, 4,000-pound statue of Mary, Roesslet, Eide and the Conrad Schmitt team used 23.75-carat gold — which is actually better for gilding than pure 24-carat gold.

The gold leaf was sourced from Giusto Manetti Battiloro, one of the world's leading producers of gold leaf.

The company has been practicing the art of gold beating for more than 400 years. Ingots — solid blocks of gold — are reduced to thin sheets of gold leaf in a multistage process until each gold leaf is only 250,000ths of an inch thick.

For the Main Building project, Roesslet, Eide and the Conrad Schmitt team used what's called "double gold," which equals 30 grams of gold per 1,000 leaves.

"All the wonderful artifacts from ancient Egypt that had gold leaf on them, (that) is essentially the same gold leaf that we're using today," Roesslet said. "And it's produced essentially in the same way it's produced today. You put it between

layers of leather and you pound on it until it gets thinner and you keep getting it thinner and thinner and get it to the shape you want."

### A job with a view

Before any gold was applied, the Conrad Schmitt Studios team conducted an inspection of Mary and the Dome, testing which cleaning techniques would be most efficient for the space, and which primer and sizing (adhesive) would provide the best bond.

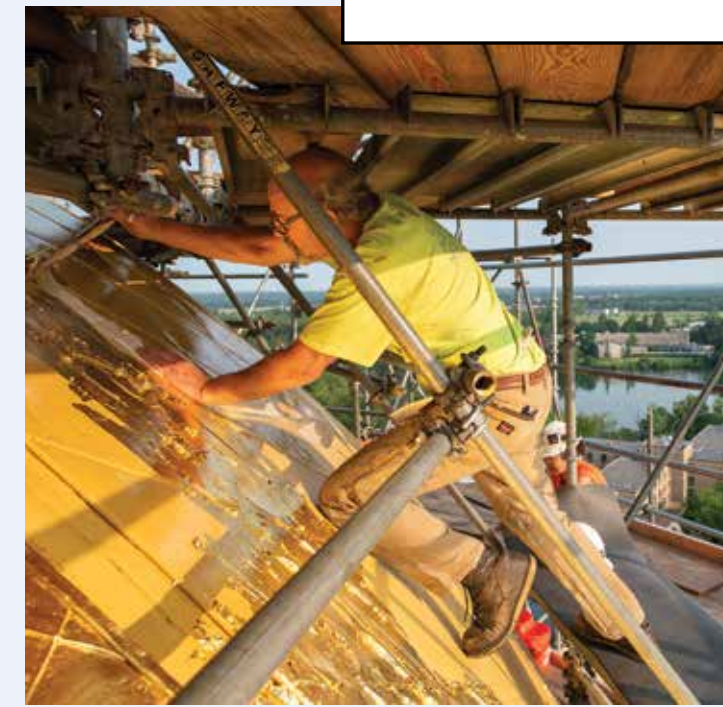
The inspection was followed by a thorough cleaning to remove dirt and dust and abrade the surface. Roesslet described it as a controlled cleaning using standard spray bottles, biodegradable soap and Scotch-Brite pads. The team gently removed any bumps or nicks in the previous layer of sizing caused by abrasives in the environment — particulates in the air that can be abrasive and have more of an impact than any kind of chemical reaction that could break down the primer and/or sizing.

Once there was a clean, smooth surface, the team used an oil mordant gilding technique, which consists of applying an oil-based sizing. The sizing set for at least 12 hours

## GOLDEN HOUR

"You know, a picture's worth a thousand words, but walking into a space, you get so much more."

Bryon Roesslet



(Photo by Barbara Johnston/University of Notre Dame)



(Photo by Barbara Johnston/University of Notre Dame)

## Bryon Roesslet

Architectural conservator / Senior artist

Bryon Roesslet is no stranger to the Notre Dame campus. His first visit was to Hesburgh Library for restoration of the "Word of Life" mural. He later took part in additional restoration and fiberglass work on the transepts at the Basilica of the Sacred Heart, conducted a survey on the exterior windows and worked on assessments and restoration of various murals inside the church. He also provided a paint study and mock-ups, and worked on restoration of the original decorative finishes in the Main Building.

Entering the trade in 1989 was a matter of "pure luck," Roesslet said. He'd been working as an art director for a greenhouse supply company, but after a while he felt restless. "I was at the point where I was like, OK, I'm not challenged at all by this anymore. I'm not learning anything new."

Roesslet came across an opportunity with Conrad Schmitt Studios. "Once I saw what the studio did," he said, "I'm like, yeah, I want to do that too."

"When I started, (I) was like, holy cow, what a great adventure," he added. "I get to go to all these places I'd never heard of."

With more than 70,000 hours behind him, Roesslet has more hours in his trade than anyone else in the district council of his union. His work has taken him to the St. Francis Xavier Cathedral in Green Bay, Wisconsin;

the St. Joseph Catholic Church in Topeka, Kansas; multiple state capitols; and even a courthouse in Onida, South Dakota.

"It's kind of a legacy feel to your career at the end," he said. "If I were to take my grandkids around to all the places I've gone, it would take a year. I've worked in 44 states and in Washington, D.C., too. It's a weird trade — the lack of understanding that so many people have. They'll walk into a building and it's beautiful, but they don't really understand what it took to get there."

Even Roesslet's parents struggled to understand his work until they had a chance to see it for themselves at the Brown County Courthouse in Green Bay, Wisconsin.

"I'd shown them pictures of what I had done, but until they walked in — to get the scale and the richness of the finishes that were presented to them face to face, compared to a picture," he said. "You know, a picture's worth a thousand words, but walking into a space, you get so much more."

When every job is a room — or a dome — with that kind of view, it's understandable why, even with the challenges of the work itself, Roesslet keeps coming back for more.

As for Roesslet's favorite job ...

"I always say the next job is my favorite job — because it's a new adventure."



(Photo by Barbara Johnston/University of Notre Dame)



(Photo by Barbara Johnston/University of Notre Dame)

## Jill Eide

Historic preservationist / Master gilder

Jill Eide grew up with an appreciation for the preservation of history. Her father restored classic cars.

"I grew up in a garage around car guys," she said. "The work they vested into the details was so interesting. Beautiful paint jobs on the old cars — gold flames, pinstripes. I think that's where it all started." In watching her father, Eide said she got a "feel of the respect for handiwork, restoration and repairs, and doing it all yourself."

Her first project was through an apprenticeship, working on a county church over the summer while she was an undergraduate at the University of Wisconsin-Madison. That led to art conservation work at the Wisconsin State Capitol building. When she graduated, her career was already underway.

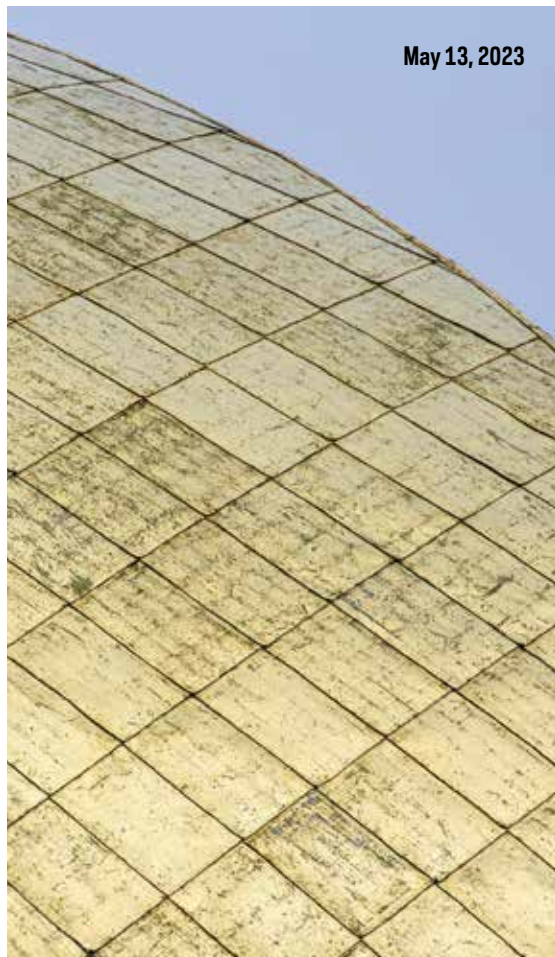
Eide has 25 years in the trade now. She's gilded four domes (Notre Dame's Main Building included) and worked to preserve historical civic and sacred spaces across the country.

Being a woman in the trade is a unique position to be in. While Eide said that cur-

rently Conrad Schmitt has women on crews working across the country, she remembers plenty of projects throughout the course of her career when she was the only woman working alongside all the other trades of men. It's physically demanding work, she said, "and I was often underestimated."

"I am usually the lead foreman on projects," Eide said. "Conrad Schmitt supports me and all the women in the company 100 percent. On some job sites through the years, I'd get pushback — that I don't have what it takes or the experience. You have to be confident. Soon enough, they see I'm no joke." Gilding is "a very old technique," she said. "It's rare to know how to do it, and I enjoy spreading a little bling all over the country."

"I take pride in the excitement from the people on campus at Notre Dame," Eide added. "I take great pride in my work, and the Notre Dame campus has been so honorable to us. It makes the tough trek up those stairs worth it every day."



May 13, 2023

(Photo by Matt Cashore/University of Notre Dame)



Sept. 6, 2023

(Photo by Matt Cashore/University of Notre Dame)

# A woman clothed with the sun

By Carrie Gates, Media Relations

Looking up at the newly regilded statue of Mary atop the Main Building, gleaming gold in the afternoon light, it is not difficult to imagine her as the woman who appears in Revelation, “clothed with the sun” itself.

And that is as the sculptor Giovanni Meli intended, according to **Robin Jensen**, the Patrick O’Brien Professor of Theology and an expert in early Christian art and depictions of Mary.

In the Book of Revelation, chapter 12, the prophet John the Evangelist describes a vision of a woman clothed with the sun and adorned with stars—a woman soon to give birth to a son who is destined to rule all nations and who will be caught up to God and his throne.

In the Christian tradition, she is identified as Mary, the mother of Jesus.

John goes on in chapter 12 to describe how the woman encounters a great dragon—or an ancient serpent—representing Satan, who seeks to destroy her son and wage war against all who keep God’s commands.

“You can see that our statue of Mary is standing on a half globe, with a crescent moon and a serpent under her feet,” Jensen said. “This is very traditional iconography of Mary as the woman in Revelation, where having the serpent under her feet symbolizes victory over evil.”

The chapter provides an interesting counterbalance to the story of Eve’s fall in Genesis, Jensen said, and is the reason that Mary is sometimes referred to as the “new Eve”—a tradition that began in Christianity as early as the second century A.D.

“It’s kind of wonderful because these two stories really bookend the Bible. It starts with Genesis, and then here we end with Revelation,” she said. “In the Genesis story, the serpent is the one who tempts Eve to eat the fruit. And in many images of the story, even from the Middle Ages, the serpent actually has feet and is standing upright like a dragon until God curses him to crawl on his belly for the rest of time. After the fall, Eve is also cursed to have pain in childbirth and Adam is cursed to work.

“And though it is not in the

Bible, it is in the Catholic tradition that when Mary gives birth to Jesus, she has no pain. So, she becomes the reversal of the curse of Eve.

Thus, she is the new Eve, and the son that she gives birth to is the one who will destroy the serpent that we first see in the book of Genesis. So, you can connect all these dots.”

While artists often depict Mary as a mother with the infant Jesus in her arms, Jensen noted that this iconic statue is similar to the statue of Mary in the Grotto, where she appears under her title, the Immaculate Conception.

## Revelation 12:1



**A great sign appeared in the sky, a woman clothed with the sun, with the moon under her feet, and on her head a crown of twelve stars.**

For Jensen, who studies the importance of context in viewing sacred art, it is also fitting to see such a statue atop an administrative building rather than a church.

“I have a funny feeling that most people outside Notre Dame who see the statue of Mary on the Golden Dome—say, in a panorama shot on TV during a football game—think it must be atop a church,” she said.

“And I think the fact that it is not on the Basilica, but on the Main Building, is actually very important. It moves it away from just being a simple church statue into something that has become our emblem. In a way, she has become the guardian of our entire campus. She’s the one we look up to. She’s the one who looks over us and prays for us—and I love that feeling.”

Photo by Matt Cashore/University of Notre Dame



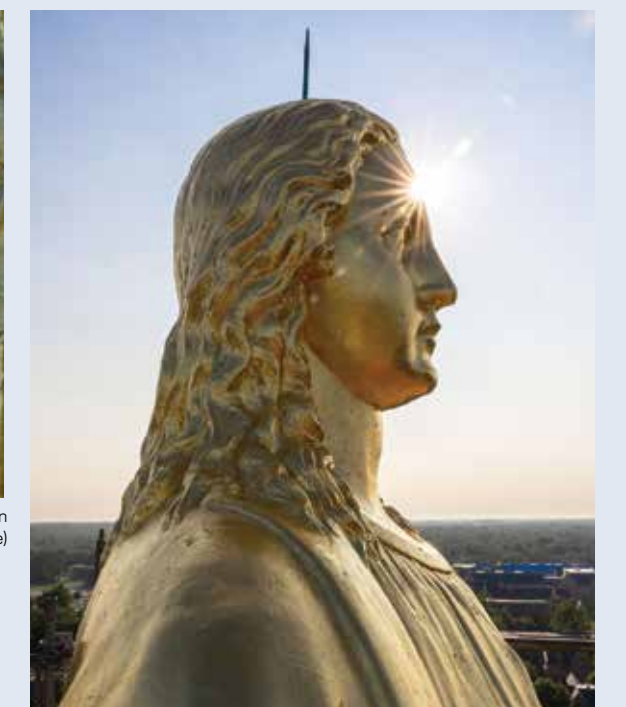
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Bryon Roessellet from Conrad Schmitt Studios removes flakes of gold with a fine brush during the gilding process on the statue of Mary atop the Golden Dome on the Main Building. (Photo by **Barbara Johnston**/University of Notre Dame)



(Photo by **Barbara Johnston**/University of Notre Dame)



A metal post on the Mary statue on the Dome was once intended to be an anchor for a halo. (Photo by **Matt Cashore**/University of Notre Dame)



(Photo by **Barbara Johnston**/University of Notre Dame)

## A gift from the heavens

By Jessica Sieff, Media Relations

**GOLD: a cosmic collision between neutron stars crashing into one another, setting off a chain of nuclear reactions, forming neutron-heavy metals and scattering them across the universe.**

It’s easy to forget that gold, believed to have been discovered around 3000 B.C., is otherworldly—the result of a cosmic collision between neutron stars crashing into one another, setting off a chain of nuclear reactions, forming neutron-heavy metals and scattering them across the universe.

Primary deposits occur when minute quantities of gold in rocks dissolve in hydrothermal waters above magma at the core of volcanoes, according to **Jeremy Fein**, professor in the Department of Civil and Environmental Engineering and Earth Sciences.

As the water works its way up through Earth’s crust and cools at the surface, the gold precipitates in higher concentrations in its metallic form, typically forming with crystalline quartz in veins within the rock.

Those primary deposits provide far more gold for use volumetrically than secondary deposits—nuggets and fragments that break free from

rock through erosion, washing into streams and rivers with other sediment, Fein said.

Gold’s lack of reactivity to oxygen makes it the most malleable of metals. Its electrons move close to the speed of light, contributing to its signature and mesmerizing hue.

The Egyptians gilded sarcophagi with gold leaf, used the metal for jewelry and hammered it into thin sheets for sandals. Cleopatra wore a thin layer of pure gold as a nightly face mask—a beauty treatment that is still used today.

For centuries, powdered gold mixed with sap from lacquer trees has been used in the Japanese art of kintsugi, creating an adhesive used to repair broken pottery.

When creating the Lycurgus Cup, a glass chalice featuring a depiction of King Lycurgus of Thrace, Romans showed that using gold nanoparticles in decorative glass causes the glass to appear in different colors when reflecting light at various angles. The chalice presents both green and red.

“When you make gold very small—into nanoparticles—it changes how the material interacts with light, moving the absorption from blue to infrared,” said **J. Daniel Gezelter**, professor of chemistry and biochemistry and

senior associate dean of education and undergraduate programs in the College of Science. “Depending on the size of the gold nanoparticles, you can tune where they absorb light and get different colored solutions.”

That ability to absorb light, particularly in the near infrared, makes the metal uniquely interesting to researchers looking for ways to target and treat disease, including cancer.

“Living tissue is nearly transparent (in the near infrared), so we hope the nanoparticles can be used for diagnostics, particularly with cancer cells,” Gezelter said. “They will transfer that energy as heat to the cells where they are attached, potentially killing off cancer cells,” a process known as photothermal therapy.

When illuminating these particles with concentrated light, “those particles can transfer a lot of energy,” Gezelter said. “They will transfer that energy as heat to the cells where they are attached, potentially killing off cancer cells,” a process known as photothermal therapy.

In controlled environments, gold can last forever. But reduced to micro-thin levels, gold leaf is extremely delicate—vulnerable to wind, rain, even particulates in the air.

## GOLDEN HOUR

# As good as gold: Tony Polotto—the man in charge of the regilding

By Natalie Davis Miller, NDWorks



Tony Polotto, senior director of construction and quality assurance in Facilities Design and Operations, manages all new major capital and renovation projects on campus, including the regilding project. (Photo by Matt Cashore/University of Notre Dame)

It was hard to miss the big to-do atop the Main Building this summer. Scaffolding erected around the Golden Dome and statue of Mary signaled a regilding—the act of bringing back the luster and beauty of the iconic architecture known the world over.

For many on campus, witnessing this process for the first time was a truly memorable experience. And for **Tony Polotto**, the senior director of construction, the sentiment was no different. Polotto has not one, but two regilds under his belt, which is impressive, given the length of time between each gilding. (The previous regilding happened 18 years ago in 2005.) Polotto brought both experience and perspective as he navigated this regilding, the 12th overall.

“I came to Notre Dame in 2003 because it is a magical place,” Polotto said. “I look forward to coming to



Tony Polotto shows the work being done at the 2005 Dome regilding project. (Photo by Matt Cashore/University of Notre Dame)

work every day. I’m one of the fortunate people in the world that enjoys their job.”

With scaffolding in place and contractors on site, Polotto led a meeting outside the Main Building

with members of the campus police and fire departments, Risk Management and Safety, and the Office of Public Affairs. Attendees introduced themselves and their roles. It was July 10, and this was the begin-

ning of something big—a once, maybe twice, possibly a three-times-in-a-lifetime event. Even so, before anything began, Polotto wanted to make it clear to all present that safety was the most important consideration. So much so that he let everyone know that if something needed to be stopped or delayed due to safety concerns, he would make that happen.

Polotto set the tone for what would be his second successful gilding.

Having just celebrated 20 years at Notre Dame, Polotto has an impressive portfolio of managing building projects on campus including six new residence halls, the security and post office building, Warren Golf Course and clubhouse, Ave Maria Press and Malloy Hall.

“Those were all substantial buildings that I can be proud of, to say I was a part of that. They’re just remarkable, beautiful structures.

But the Main Building, I can say, has been my favorite project out of my career.”

Polotto has 33 years of experience in construction—working with contractors, developing relationships, working with quality assurance and making sure the final product is what it needs to be. But it’s the everyday work and developing relationships on campus that are most meaningful for Polotto.

“The people are amazing. I wouldn’t hesitate to pick up the phone and call anybody on this campus at any level and expect a warm greeting and helpfulness. It makes my job easier. It makes this project easier and it adds to the joy and value of my career.”

## The beginning

Every year Polotto uses video from a drone to assess the Dome and statue of Mary, checking for

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During the 2005 regilding, the statue of Mary and the Dome were scraped down to the base substrate. (Photo by Matt Cashore/University of Notre Dame)

deterioration. When it starts to show wear and tear, plans for a regilding start to form.

While planning for this regild began in July 2022, the foundation was laid back in 2005, after Polotto’s first successful regilding project. Necessity and foresight led to the scraping of all layers of gold and other material off the Dome and Mary, down to the base substrate.

“The regilding process is not just an aesthetic feature,” Polotto explained. “It’s not a beautification of the Main Building itself. It serves as a protection for the structure.”

The Dome is made of galvanized steel panels and the statue of Mary is cast iron. It can rust, and the galvanized panels on the Dome can deteriorate without a protective coating.

“If you can imagine a home that has 10 coats of paint on it and some of it has flaked off, you know what that would look like. So, it was in pristine condition when we left it in 2005,” recalled Polotto. “Fast forward to 2023, you know, with a bit of experience from the first process, I didn’t have the anxiety as I did going into it [then]. The processes and procedures were clean and cut, but the actual job itself is very similar.”

The 2005 prep work also led to a shorter timeline and a leaner regilding team. The timeframe for completion was down at least two weeks, and the regilding team was less than two people because their prep roles weren’t necessary. Basically, five people took care of the Dome and six people repaired and repainted the tower.

Polotto did the heavy lifting at the beginning of the project—the

planning, the bidding, the contract awards when they began the process in 2022. “Now that the work has started, I’m working with some real pros, right? So my oversight is just that now.”

## The process

Polotto described the 2005 renovation as a learning process. The questions he had then were equally appropriate now: “It was an experiment of what do we have to be worried about that nobody’s ever thought about before? The scaffolding is a large, complex system. We have to do a structural analysis on the building. How can we load the building? Can the building take the load? How is it going to be engineered and built so we can access all of the tower and the actual Dome and the statue of Mary?”

The scaffolding went up in May, as soon as the students left campus. Polotto’s office made a daily inspection of the scaffolding system, planned and designed months before it was erected. This was a far cry from how it was done in the past.

“What’s been interesting is, if you see any historic photos of the Main Building, the people that took care of this building generations ago literally climbed out small access hatches at the base of the statue and did the gilding and the repair work off of ropes swinging from the inside of the structure. That would never fly today. And that’s why we have the complicated scaffolding systems,” he explained.

Conrad Schmitt Studios, the group that did the last regilding as well as other projects on cam-



Tony Polotto talks with Mike Daly, senior director of project management, during a visit to the Main Building regilding and restoration project. (Photo by Matt Cashore/University of Notre Dame)



Tony Polotto walks high above the Main Building on the scaffolding surrounding the tower and Dome during the 2023 regilding project. (Photo by Matt Cashore/University of Notre Dame)

pus, returned for this one. Polotto has worked with the father, son, daughter and granddaughter in the Schmitt family, and in a reunion of sorts, other members of the team

returned for this regilding. This includes the foreman from the 2005 regilding, who was the project manager for this go-round. The only new players were the painters, work-

ing on beautifying the tower below the Dome.

Workers used rolls of gold leaf, thinner than a strand of hair. It was adhered to the statue and Dome using first a primer or size, and then glue. The gold was rolled on and rubbed in with a cotton glove. “It looks like an automobile finish,” Polotto said. “When it’s done, you can’t see any seams or any imperfections in the gold at all. It almost looks like a sprayed finish.”

From start to finish, the restoration took five months, including the five weeks to erect the scaffolding and the four weeks to take it down.

## Measuring success

For Polotto, success isn’t just the final project. It’s also the process, including protecting pedestrians, visitors, faculty, staff and workers in general.

“We have measures in place to make it a success. Did we meet the budget? Are we on time? Was it done safely? And is the quality of the finished product what we want to see?” These questions are the barometer for success.

“I would say with the painting and the gilding itself, it’s not just the expertise, it’s the passion for your job,” Polotto said of the workers involved with the process. “We have one shot for doing this right, and if you go up and take a look at it, it’s done right. These people care about what they’re doing. They’re passionate about their work.”

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# From beginning to end



(Photo by **Matt Cashore**/University of Notre Dame)

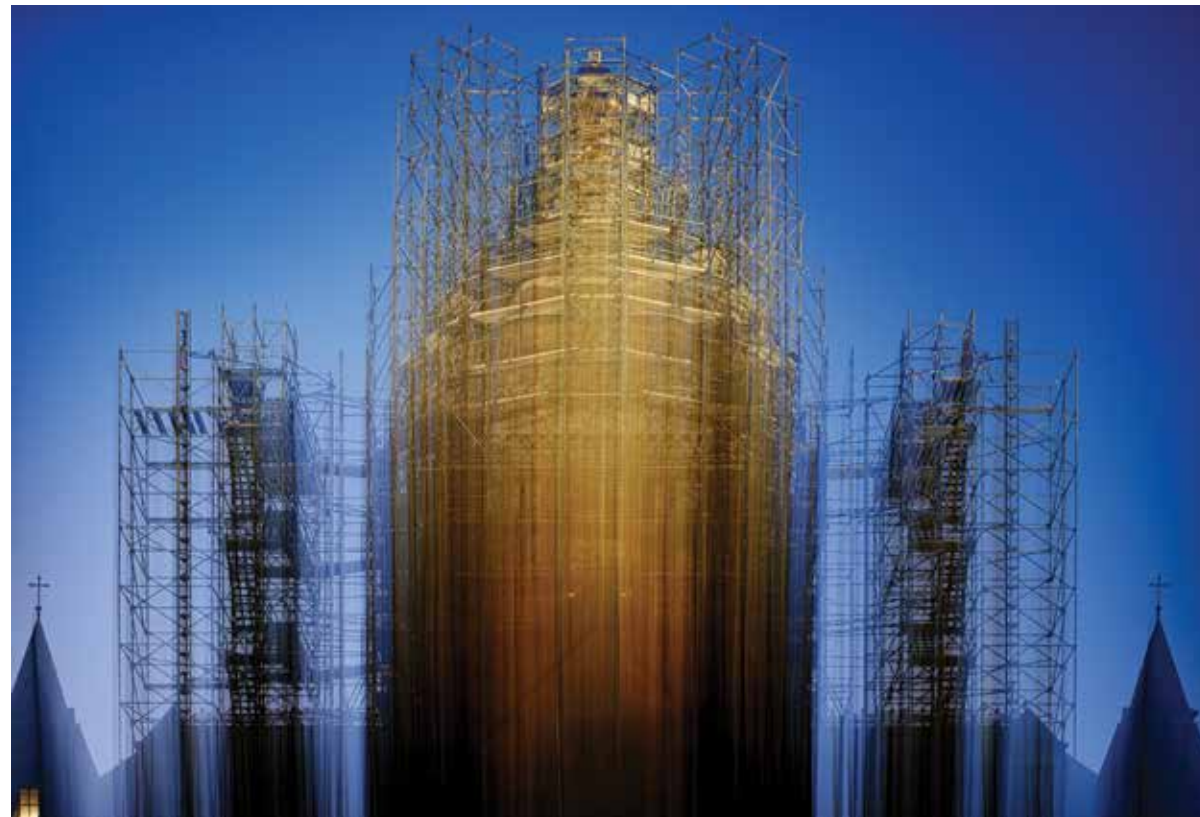


(Photo by **Barbara Johnston**/University of Notre Dame)

Prior to commencing the regilding itself, a team of workers meticulously erected scaffolding from the ground up, spanning a height of about 200 feet.

The construction process took approximately six weeks to complete.

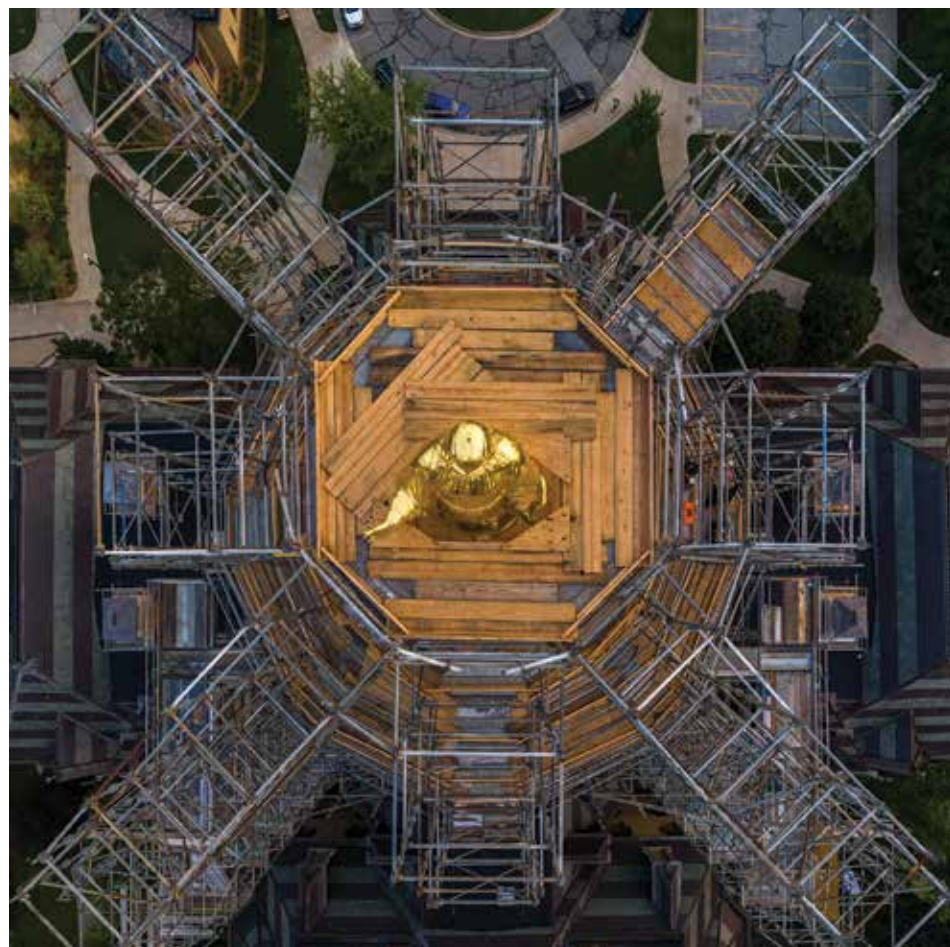
While the regilding project was a considerable undertaking, a relatively small team was assembled to complete the intricate work. Fewer than two dozen people were involved in the process, including preparations, repairs, painting and application of the gold itself.



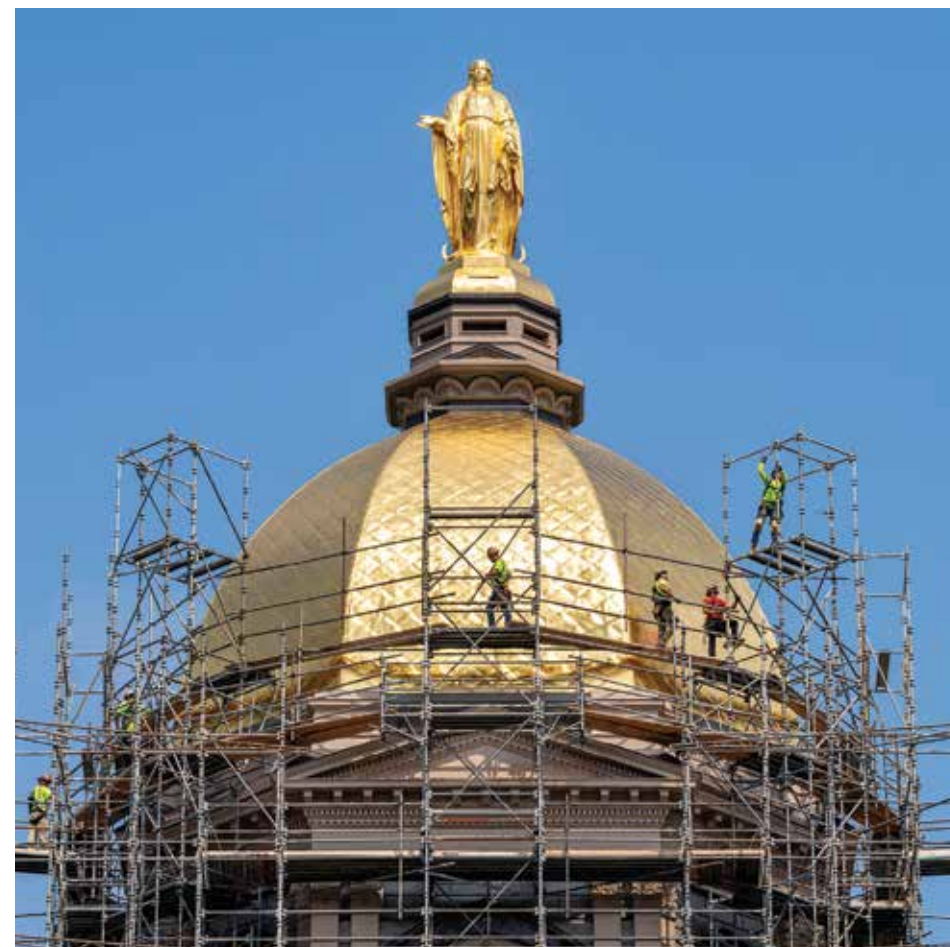
(Photo by **Matt Cashore**/University of Notre Dame)



(Photo by **Matt Cashore**/University of Notre Dame)



(Photo by **Matt Cashore**/University of Notre Dame)



(Photo by **Barbara Johnston**/University of Notre Dame)

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**Zach Dudka**, creative director, video content



**Nevin McElwrath**, media designer



**Barbara Johnston**, University photographer



Back row, standing, left to right: **Andy Fuller**, **Jennifer Laiber**, **Brendan O'Shaughnessy**, **Dennis Brown**, **Jenna Liberto**, **Nevin McElwrath**, **Zach Dudka**, **Beth Grisoli**, **Carrie Gates**, **Natalie Davis Miller**, **Sue Ryan**, **Erin Blasko**, **Michael Wiens**. Front row, kneeling, left to right: **Tony Fuller**, **Liz Harter**, **Kristi Flaherty**, **Tracy DeStazio**, **Staci Stickovich**, **Matt Cashore**



**Kristi Flaherty**, associate director, Brand Content



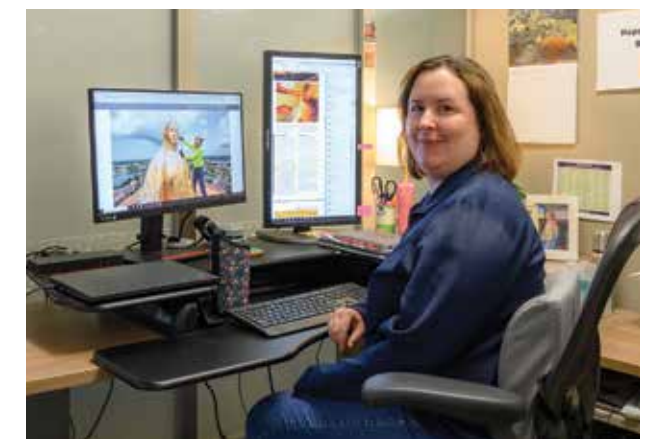
**Tony Polotto**, senior director of construction; **Natalie Davis Miller**, managing editor, NDWorks; and **Tony Fuller**, senior videographer/editor



**Elissa Chudzicki**, senior graphic designer



**Matt Cashore**, senior University photographer



**Brittany Kaufman**, editor/proofreader

Watch videos, browse photo galleries and read more about the regild online.



## Behind the scenes

Telling the story of the 2023 regilding was an intra-divisional effort. Teams from the Office of Public Affairs and Communications, including the departments of Brand Content, Internal Communications, Media Relations and ND Creative, each contributed their talents,

whether in direction, writing, photography, videography, brainstorming or managing the multifaceted project.

*Not pictured: Amy Bladow, Tori Murphy, Shannon Roddel, Jessica Sieff and Brandi Wampler.*

