

# HOTCHKISS MAGAZINE

*Fall 2017*

THE  
ART *of*  
DESIGN



***DESIGNERS,  
ARCHITECTS,  
AND ARTISTS  
WHO ARE SHAPING  
OUR WORLD***

Rock Creek House in Washington, D.C., designed by Nader Tehrani

PHOTO: JOHN HORNBER

# THE FUTURIST

From his office in Boston, award-winning designer Nader Tehrani '81 talks about his "aesthetic awakening" at Hotchkiss, his latest design challenge, and juggling a career in two cities

BY WENDY CARLSON

PHOTO: WENDY CARLSON



“I WOULD LIKE TO BRING THE EMPHASIS AROUND TO HOW THE ARCHITECTURAL DISCIPLINE ITSELF CAN BRING A SENSE OF TRANSFORMATION TO THE HUMAN CONDITION — AT HOME, AT WORK, AND IN THE PUBLIC REALM.”

This holistic approach to architecture has been a guiding force throughout his career. A recent article in *The New York Times* describes Tehrani as part of a “bumper crop of designers whose sensibilities are bringing new depth to contemporary architecture around the world.”

For Tehrani, that sensibility first emerged at Rhode Island School of Design, where he earned his BFA and B.Arch. in 1985 and 1986, respectively. After a post-graduate year at London’s Architectural Association, he continued his studies at Harvard’s Graduate School of Design, where he earned a masters in architecture and urban design in 1991. In 1992, Tehrani began an extensive career in academia, including teaching stints at Northeastern University, Harvard’s Graduate School of Design, and Massachusetts Institute of Technology, where, from 2010-14, he served as the head of the architecture school.

Since co-founding NADAAA in 2011, Tehrani and his partners, Katherine Faulkner and Daniel Gallagher, have worked on a wide range of nationally and internationally acclaimed projects, including public, institutional, and private commissions. Currently, the firm is completing the renovation of the University of Toronto’s John H. Daniels Faculty of Architecture, Landscape and Design, transforming one of the city’s most iconic neo-Gothic buildings into a work of contemporary architecture. The project was a milestone for Tehrani, making NADAAA the only firm in the country to have designed three university schools of architecture, with a fourth master plan underway for the University of Miami School of Architecture.

Now, Tehrani is facing a brand-new challenge: designing a new jail system in New York City as part of a proposal to close Rikers Island Correctional Facility.

Last spring, Tehrani and his partners were selected to be part of Justice in Design, a team comprised of architects, designers, planners, psychologists, and incarceration reform advocates who are working with The Van Alen Institute, a nonprofit urban think tank, on a proposal to close Rikers.

For decades, city leaders have debated shuttering Rikers because of its notoriously corrupt reputation, brutal treatment of detainees, and inhumane conditions. Critics of the proposal argue that the complex of 10 jails and about 10,000 detainees can’t be closed because the city lacks alternative infrastructure. Last July, Justice in Design released a report outlining design principles

At first glance, the nondescript brick building in Boston’s gritty south end seems an unlikely place for a cutting-edge design office. But inside this former plaster-casting studio, the grimy sidewalks and faded facade give way to an airy interior suffused with light filtering down from a series of sloped skylights. At long wooden tables, a dozen or more designers work side by side, quietly tapping at their computers or sketching floorplans. A puppy snoozes in a dog bed at one end of the office; at the other, a shelf showcases models that look like tiny abstract sculptures.

It’s decidedly quiet here, but one floor below, the hum of machinery fills the air. In the NADLAB, a fabrication studio, another design crew works with saws, drills, routers, 3-D printers, and laser cutters, making one-off pieces like a curvaceous bureau fashioned out of compressed plywood and plastic composite

door handles resembling duck feet.

Nader Tehrani, principal and co-founder of NADAAA, moves seamlessly between these two worlds, dressed in his signature white shirt, black pants, and spotless white Adidas sneakers — a uniform that, he says, is “like my haircut: it gives me one less decision to make when I wake up.”

Time is of the essence for Nader, who splits his seven-day work week between New York, where he heads the Irwin S. Chanin School of Architecture at Cooper Union, and his office in Boston.

“I take the train at 6 a.m. Tuesdays to Cooper Union, and that ride becomes an office for me, so I can write for four hours, without the distractions of iPhone or Wi-Fi. It’s like an isolation chamber,” he says.

On mornings when he doesn’t commute, he typically begins his day at 5:30 a.m. with a three or four-mile run, followed by a 15-mile

bike ride. But even when he’s exercising, Tehrani is working on designs in his head.

Since he was a kid, Nader has been living and working on the move. His dad served in the Iranian diplomatic corps, so the family relocated from country to country and culture to culture, living for periods of time in Pakistan, Iran, and South Africa. Travel exposed Tehrani to various architectures and what he calls “aesthetic events,” like the day he saw Hotchkiss for the first time.

The year was 1978. Tehrani was visiting Hotchkiss after one of the worst nor’easters of the decade had pummeled New England. Snow had drifted halfway up Scoville Gate, and Tehrani, who was touring prep schools with his friends, barely made the trip to Lakeville. But what he remembers most about his visit wasn’t the record-breaking blizzard, but Main Building, which, at the time, bore the design of modernist Hugh Stubbins, the

architect best known for Citicorp Center’s landmark tower in Manhattan.

When he first saw Main, he remembers thinking to himself: “This is where I want to be.” Before the building was redesigned in its current Georgian iteration, Main resembled a series of abstract brick planes receding in space, without any apparent windows.

“It was scaleless, blank, and while composed of brick, it was completely edited of all the detail and iconography for which the rest of the campus was known,” says Tehrani. “It was a veritable piece of architecture; it was hard and brutal, but to me, its minimal restraint was stunningly beautiful.”

At Hotchkiss, Art Instructor Blanche Hoar inspired Tehrani to pursue a career in architecture, but his first impression of Main on that winter day instilled in him an appreciation of how architecture can define the ethics and environment of a place.

PHOTO: ERIC STAUBENMAIER

PHOTO: JOHN HORNBER



Banq restaurant,  
Boston, MA

University of Melbourne,  
Australia

and programming for borough-based jails, or “Justice Hubs.”

Design on its own isn't going to solve the city's criminal justice issues, Tehrani says, but the process has given him insight into the workings of the system and how it can be improved through justice hubs and the participation of the communities they serve. As part of the team, he and firm co-founder Daniel Gallagher met families and individuals who are personally affected by the incarceration system, and he came away with a profound sense of their frustration. “Sometimes, families wait for hours just to speak to their loved ones, only to find out they've been moved somewhere else,” he says.

Hubs in each of the city's five boroughs would make it easier for detainees to connect with their families, as well as with courts and social, educational and health services. “Jails also lack some of the most basic human rights that we take for granted: air, light, or views, for instance. Most cells are designed without basic privacy and acoustic insulation, and we need to rethink that,” he says.

The task will be designing the hubs in conversation with the surrounding urban environment, he adds.

Over the span of his career, Tehrani has challenged established design principles with his use of materials, building concepts, and style. His work has ranged from galleries and pavilions to residences and schools, reflecting the influence of a wide range of international architects, including Eladio Dieste from Uruguay, Miguel Fisac from Spain, and Pier Luigi Nervi from Italy. These architects, he says, “looked beyond structural optimization and considered the role of geometry, materiality,



texture, and light in each of their works.”

In 2007, Tehrani was co-principal in the design of Helios House, a hulking structure made out of large stainless steel triangles that looks more like a gleaming metal sculpture than a gas station. The building has become a Los Angeles landmark and the first LEED-certified gas station in the country. More recently, he helped transform a contemporary art installation made of 28 gigantic wool fiber ropes into blankets for Syrian refugees. And one of those small pieces on his office shelf was developed as a model for a research project to illustrate how unlikely structural properties can work together — in this case, 60 individual carved and interlocking blocks of polyurethane foam board.

In the NADLAB, he and his team of 20 designers continue to innovate, creating new building methods and materials, using digital technology and 3-D manufacturing.

“We are trying to rethink material properties — ways of assembling materials through new means and methods, and engaging other disciplines as a basis for innovations in the construction industry, adopting techniques that may not have been tried before,” Tehrani says. Each designer takes turns working on different phases in the design process, whether they're assembling

composites, cutting block materials on a CNC router (computer numerically control router), or piecing together large architectural models.

In his career as an educator, Tehrani has emphasized a similar model of collaboration.

“I'm trained as a traditional architect and have basically spent 25 years constantly re-educating myself through the younger generation,” he says.

“The idea of a teacher as the central master is all but obsolete,” he says. “We learn horizontally: students learn from each other, and teachers more often learn from students. Whereas we may bring more experience to the conversation, the next generation brings an openness and a digital dexterity that often overturns one's assumptions. The academic environment is just a very different place than it was when I was in school.”

In the future, Tehrani plans to keep challenging design and building concepts and pursuing projects that have far-reaching social impact.

“While I know that many people talk about social activism these days, I would like to bring the emphasis around to how the architectural discipline itself can bring a sense of transformation to the human condition — at home, at work, and in the public realm.”

# EVERY KID SHOULD BE ABLE TO RIDE A BIKE

Spar Patton '02 designs a special handlebar grip for a two-wheel bike

BY AARON GARLAND, RIT

Spar Patton has been doing his part to ensure one young girl isn't denied the sense of fulfillment that comes with learning to ride.

Patton, a graduate of RIT's MFA industrial design program, constructed a customizable handlebar grip kit that makes operating a bicycle far easier than before for a motivated girl with a different range of motion in her right elbow, hand, and fingers compared to kids of the same age. Patton's bicycle cockpit tweaking was done specifically for 6-year-old Emily in an effort to make a substantial difference in her ability to balance and look ahead on a two-wheel bike.

Patton exhibited a prototype of the handlebar grips equipped for Emily at the Effective Access Technology Conference April 21 in the Gene Polisseni Center. The product, which brings key steering components closer to the bike user, is his thesis project. Patton decided to revolve all of his research and production around Emily, rather than it being more universal, and he's worked with the young girl and her family since the fall.

Emily has what's called ulnar club hand in her right forearm and hand. It's characterized by the ulna (a long forearm bone) and other soft tissue structures on the ulnar side of the hand developing abnormally, leading to either instability in the wrist or elbow.

Emily's right radial bone bows and she has two digits on her right hand. It causes her to position her body in different ways while riding a bike and grasp and balance using her armpit and pointer finger.

But Patton's handlebar system is giving Emily a smoother, more efficient ride.

It features a standard straight grip on the

left side. The right side consists of the same straight grip, with a connected elbow adapter that extends toward the body. A looped handle then screws into the adapter.

The structure brings the right handlebar directly to Emily's right hand. It gives her increased control of the bike and prevents her from overreaching and risking instability. The system helps Emily's steering, balance, and leveraging of the pedals.

“She was having a lot of difficulty getting power to the pedals and also keeping her head up and being able to read terrain and consistencies,” Patton said. “So I basically worked with her with a number of different prototypes to figure out the ergonomics of where she wanted to make contact with the bike.”

It's equipped for all bicycles, too, as the grips and associated parts are easily attached to and separated from frames.

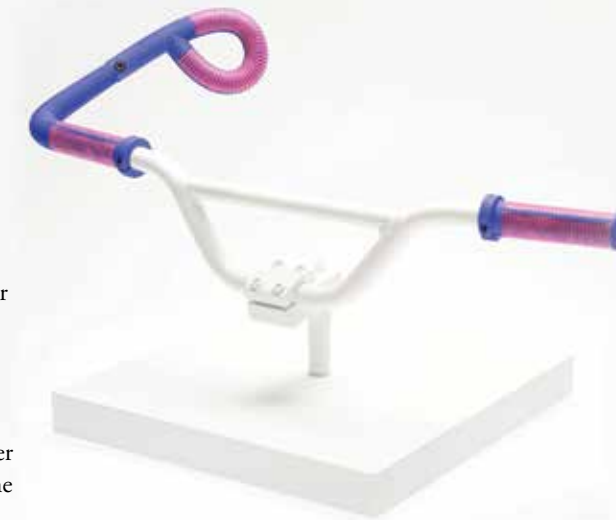
“That's kind of the idea — simple and fun,” Patton said. “Go ride a bike.”

Using Patton's current model, Emily has ridden on training wheels the last month-plus while exhibiting elevated strength and muscle memory.

“Pretty soon (the training wheels) will come off,” Patton said. “She is determined to ride a two-wheel bicycle. ... I think every kid should ride a bike, no matter what.”

Emily and Patton worked together to find the perfect design that addressed three areas in need of improvement and put less physical stress on Emily — control (balance and steering), approachability (familiarity and comfort), and safety (robust and forgiving).

The compatibility aspect of Patton's innovation allows it to grow with Emily. Patton designed the grips to adjust as personal



range and bike size changes. Like any other lock-on grips, these are suitable for any bike.

The colors are customizable, too, with Emily deciding on a pink-and-purple color scheme.

“Every kid should be able to go into a bike shop and not have any special accommodations or have to go and see some special fabrication expert,” Patton said. “I think it should be an option that is just ready to go, like you would install any component on your bike.”

Patton sought to provide Emily with an all-encompassing bicycle experience. His consideration of all factors during the process of generating this assistive technology reflects that.

Patton's research went beyond exploring just the functionality of the handlebar grips. What he came up with is something that is practical, travel-ready, sturdy, and personally rewarding.

Patton set out to make a difference for Emily with this project and said he hasn't given much thought to its wider marketability. While he noted that designing product details for one specific person does lend itself to widespread interest, he is still most concerned with this leading to Emily being able to cruise on two wheels.

“If it is (helpful) for her,” Patton said, “that's all that matters.”



Tehrani in his Boston office

This article was reprinted with permission from Rochester Institute of Technology (RIT). It was published on College of Imaging Arts and Sciences website on April 26, 2017. Patton graduated last spring from RIT with a master's in industrial design and is excited by the opportunity to help people realize their potential with thoughtful design.