

SPECTRUM

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

one gorgeous celebration

MIT's Campaign for Students a giant success

SPRING | 2011

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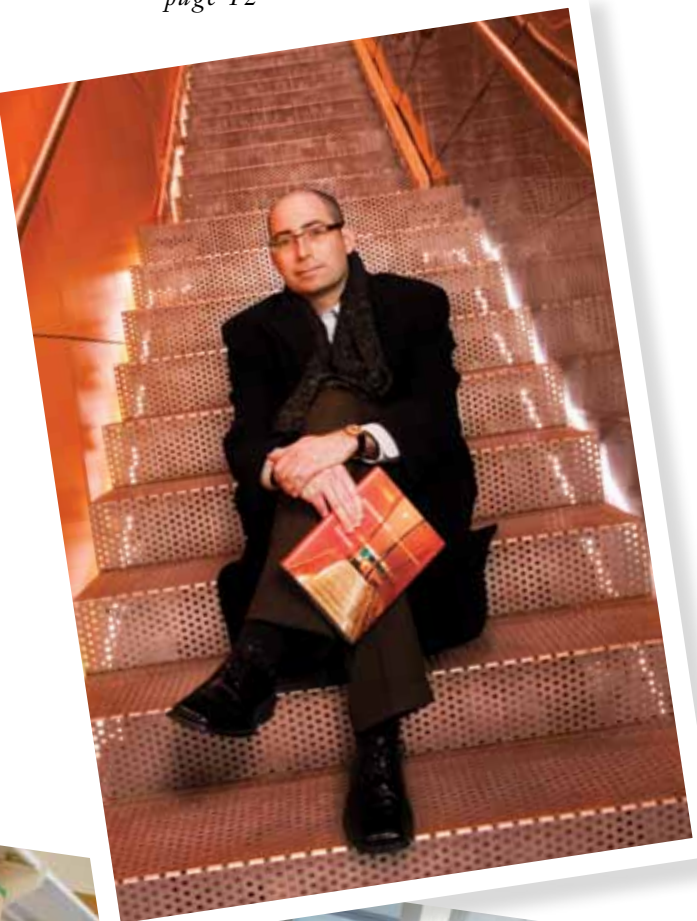
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The MIT Spectrum is a newsletter distributed without charge to friends and supporters of the Massachusetts Institute of Technology by MIT's Office of Resource Development.

Vice President for Resource Development | Jeffrey L. Newton

Interim Director of Communications | Richard Anthony

Executive Editor | Liz Karagianis

Contributing Writers | Lauren Clark | Kathryn M. O'Neill | Eric Smalley | Elizabeth Thomson | Sarah Wright

Communications Assistant | Jason Ruback

Design | Yellow Inc.

Copy Editor | Linda Walsh

Photography | Len Rubenstein

Cover Photograph | Veer images

Phone | (617) 253-3834

Spectrum Online | spectrum.mit.edu

Giving Online | <http://giving.mit.edu/>

Email | spectrum@mit.edu

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A LETTER FROM THE PRESIDENT

THE CAMPAIGN FOR STUDENTS

William Barton Rogers founded MIT on a bold educational vision, one that would help transform the industrial prospects of the United States and the teaching of science and engineering around the world. Most of all, however, it would transform the Institute's students. An MIT education prepared students to face the most daunting challenges with a confidence stemming from their ability to apply their minds and their hands to any task. MIT students would learn to probe the farthest reaches of intellectual theory and to use theoretical foundations to solve stubborn practical problems. Through the interplay of discovery and innovation, they would invent the future.

In short, through hands-on, problem-based education, President Rogers' new Institute helped its students learn how much they were truly capable of — and then sent them out to serve the world. Today, 150 years later, MIT performs the same kind of educational transformation in a more complicated time. This spring, as we approach the June 30th conclusion of the Campaign for Students, we celebrate our students and express our gratitude to the many generous donors who provide the resources to guide their education.

MIT kicked off its Campaign for Students in the fall of 2008 in the dark early days of the global financial downturn, an inauspicious moment to start raising money for anything. Yet, thanks to the undaunted generosity of almost 49,000 alumni and friends, by mid-May 2011, the Campaign had raised nearly \$555 million, exceeding its \$500M goal by more than 10 percent.

Designed as a present for MIT's 150th birthday, the Campaign for Students focused directly on student needs. For undergraduates, it greatly enhanced our ability to offer an MIT education to the most qualified students, regardless of their families' ability to pay, helping to safeguard MIT's longstanding commitment to need-blind admissions and need-based aid. At the same time, the Campaign funded important improvements to student life, including the renovation of Maseeh Hall and The Howard Dining Hall, which will allow us to offer an MIT education to more students by restoring our undergraduate enrollment to 4,500, where it stood in the mid-1990s. The Campaign supported an array of curricular innovations, and it magnified educational experiences that occur outside the lab and classroom, from the arts, athletics and religious life, to global experiences and public service.

The Campaign also achieved unprecedented success in securing support for graduate students, raising more than \$228 million for new fellowships — more than double our goal — to help us attract breakthrough thinkers from around the world. And when those students come to MIT, they now join a thriving graduate community strengthened and united in a neighborhood of new graduate residence halls.

I want to thank the many members of the MIT community whose unwavering generosity made the Campaign for Students such an unqualified success. In particular, I am enormously grateful to the Campaign's five devoted co-chairs: Lawrence Fish; Thomas Gerrity, '63, SM '64, PhD '70; Mark Gorenberg '76; Martin Tang SM '72; and Barrie Zesiger HM. I extend my most profound gratitude to former Chancellor Phillip Clay, who magnificently led the Campaign, beginning at its initial design and carrying its message to the worldwide MIT community. As the Campaign now heads toward its conclusion, I also thank MIT's new Chancellor, Eric Grimson, who will continue to champion the cause of student support.

In this issue of SPECTRVM, you will meet just a few of our remarkable students. In their intellect and ingenuity, passion and compassion, they represent all the students, present and future, who will leave MIT better equipped to serve the world, thanks to your generosity.

Sincerely,

Susan Hockfield

one gorgeous celebration

MIT's Campaign for Students a giant success

Sophomore Srikanth Bolla is one of many MIT students whose lives have been brightened by the Campaign for Students. Bolla, who is blind, recently realized a dream when he traveled to Hyderabad, India, to develop a computer-training center for visually challenged students, thanks in part to a fellowship from MIT's Public Service Center.

MIT's Campaign for Students is a remarkably successful effort that as of mid-May has raised nearly \$555 million to support present and future generations of MIT students — a striking achievement in the toughest economy since the Great Depression. So far, 48,842 alumni and friends have added to the Campaign, which ends in late June and which has already exceeded its goal by more than 10 percent.

"It's tremendous that our alumni are so dedicated," says Chancellor Eric Grimson. "It speaks volumes to how loyal they are, and it's terrific."

"In a tough economy, our alumni and friends recognize that for MIT to maintain its position of leadership, we need resources," says former Chancellor Phillip Clay, the driving force behind the Campaign for Students. "They also realize that we're at a point in history where science and technology is more important than ever to solve the world's complex problems."

The Campaign sought to raise resources for undergraduate scholarships, graduate fellowships, curriculum innovation, and student life. "The Campaign allowed MIT to secure its standards, its support for students, its commitment to quality learning and quality of student life," says Clay, adding that it also helped MIT protect its policy of providing adequate tuition support for any qualified student in need. In addition, he says, spectacular success was achieved in fellowship support, which enables MIT to attract the world's top students. The Institute raised more than \$228 million for fellowships, more than doubling the \$100 million goal.

The Campaign impact also includes renovation of Maseeh Hall, which enables MIT to expand the undergraduate student body to 4,500 students, an increase of about 250 from today's enrollment. In addition, new residence halls have provided graduate students with an enhanced sense of community, and student opportunities for global experiences have been added.

Despite the success, Clay says: "There are goals that have not been advanced in the Campaign, so we're not done." The Campaign may be winding down, he says, but its momentum will carry us forward.

Grimson adds: "The Campaign is a first step. It'll strengthen what we've already done, but a Campaign is a wonderfully evolving thing. It's a journey."— LIZ KARAGIANIS

"In a tough economy, our alumni and friends recognize that for MIT to maintain its position of leadership, we need resources."



Chancellor Eric Grimson says: "It's tremendous that our alumni are so dedicated."



Former Chancellor Phillip Clay is the driving force behind MIT's Campaign for Students.

“At a time when sports budgets and sports programs are being cut, a gift like this will guarantee that the basketball team will stay around for a long time, and that’s great.”

“... Taking our team to a national tournament, people noticed,” says Eric Zuk, captain of the MIT Men’s Basketball Team.

new heights

“**M**IT students work hard; no one will challenge that. We may not be the most talented team in the country, but we really know how to hustle,” says Eric Zuk, captain of the MIT Men’s Basketball Team — which in the past few years — really has begun to shine.

Recently, in a tight game against Worcester Polytechnic Institute, the team won the New England Women’s and Men’s Athletic Conference (NEWMAC) championship, landing MIT a spot for the third year in a row in the National Collegiate Athletic Association (NCAA) Division III Tournament.

“Three busloads of MIT fans came to one game,” Zuk says. “You realize that it means much more to play basketball at MIT than at another school, because you’re representing so much more here. MIT is a global brand.

“Maybe sports weren’t associated with MIT in the past, but taking our team to a national tournament, people noticed,” he says. “In a big way, we felt that we were expanding the MIT brand of excellence, and that’s important.” He adds that the team lost that tournament in the second round, but “we were definitely happy with our effort.”

The 13-member team has learned valuable life lessons from playing basketball, Zuk says, including leadership and teamwork, perseverance, dedication, cooperation, discipline, and community spirit. One big lesson, he says, has been learning to lose.

“It’s hard to lose — especially at MIT. A lot of students here don’t know how. It’s just the mental make-up of people at the Institute. But it’s been great to learn to win and lose gracefully, a good lesson for sports and for life.”

Recently, the team got a big lift from alumnus David H. Koch, who for more than 40 years held the MIT men’s basketball single-game scoring record — 41 points. Recently, Koch, who sometimes still attends MIT games, made a major gift to support the men’s team.

“That gift means so much to us,” Zuk says. “The athletic experience is something that we all cherish. At a time when sports budgets and sports programs are being cut, a gift like this will guarantee that the basketball team will stay around for a long time, and that’s great.”

At age 15, Zuk shot up to six-feet-five, intensifying his love of the game. Now studying management science at MIT, Zuk was raised in Carlisle, Mass., and began playing basketball at age seven in church, school, and town leagues. An avid Boston Celtics fan, he often traveled across New England, rooting for his favorite college teams.

“Progressing MIT basketball success is what gets me going,” he says. “I think about leaving MIT better than when the team came in, and that gets me excited to push as hard as I can to guarantee that the day we walk out of here, we can look back and say, we did it; we all helped to make MIT basketball more successful.” — LIZ KARAGIANIS

Freshman Jazzmyne Washington says a scholarship has helped give her the financial and academic freedom to bring her dreams to pass.

“For the first time in my life, I was challenged and loved having to push myself... It inspired me to apply to MIT.”



inspired by generosity

Jazzmyne Washington — a freshman who receives a Lois and James Champy Scholarship — says: “Recently, I met Lois Champy, who told me: “You’re at MIT, and you’ve earned it. I *believe* in you.” “Her support was so inspiring. She’s been through MIT and knows how challenging it can be. That emotional and financial support helps keep me motivated.”

Washington breezed through high school in Kenosha, Wisconsin, not needing to study much to get good grades. She zoomed through Dickens and Shakespeare. Later, she participated in programs at the University of Wisconsin; and fluent in Spanish, she studied in a bilingual program for 11 years. “But I never thought about applying to MIT,” she says.

Then at age 16, she spotted a flyer for MIT’s Minority Introduction to Engineering and Science (MITES), a rigorous six-week summer program for high school juniors interested in careers in science, engineering, and entrepreneurship. She flew east that summer to participate in the program.

“For the first time in my life, I was challenged and loved having to push myself,” she says. “It was the hardest six weeks of my life, but it was great. It inspired me to apply to MIT.”

Now, Washington plans to double major in management and economics and one day hopes to launch a company in a Spanish-speaking country. This fall, she plans to study Chinese, too. “I want to use my language skills to help breakdown barriers among people,” she says.

Washington says that a scholarship has helped give her the financial and academic freedom to bring her dreams to pass.

“Without it, the tuition would be a big financial burden for my mother. The gift means a lot because I can focus on my academics, and not have to work all hours to cover expenses. And I can focus not only on academics, but also on extracurricular activities. Social development is a big part of college, too,” says Washington, adding that she counts herself lucky to now have time to serve as secretary of the MIT Chapter of the National Society of Black Engineers; freshman representative of the MIT Black Women’s Alliance; and a member of MIT’s Black Students’ Union.

Generosity to her, she says, has influenced her to be generous to others.

“It has made me more kind. My new thing is I offer to help other students with work in the classroom. I want to help give them the same encouragement that has been given me. I’ve learned that being able to help someone else is really a privilege.”

— LIZ KARAGIANIS



Freygish Foundation



Digicel



rebuilding communities after crisis

Greg Elliott and Aaron Zinman both were raised in northern California, where earthquakes are common.

When the 7.0 earthquake hit Haiti last year and killed more than 300,000, the pair — now grad students in media arts and sciences — got an idea.

“Amid all the chaos, the American Red Cross was trying to find people to help out,” Elliott says. “We thought, What if they had known how to find them beforehand?”

“If we had a map of people’s skill sets in the hours after a crisis, things would be a lot better organized,” Zinman adds.

So together the team launched Konbit, a free service via phone and the Web that helps communities rebuild after a crisis by indexing the skill sets and life experiences of local residents, and allowing non-governmental organizations (NGOs) — like the American Red Cross, Partners In Health, or Oxfam America — to find them and give them work. “It’s like a Haitian LinkedIn,” says Zinman, adding that the service would also boost the economy by retaining all the money pouring into Haiti.

A month after the earthquake, the pair had built the system. Then, they began talking to people at various NGOs, asking lots of questions, including, “Would this service be useful?” Most often, they heard: “Yes.” Using their comments to refine the system, next they partnered with a Miami community center to test the service with 30 Haitian Americans. Officially, they launched the service in Port-au-Prince last December.

Konbit, a Creole word that means working together for the good of the community, now makes it possible for unemployed Haitians to call a

toll-free number to record their skills. The first thing a caller hears is the trusted voice of Bob Lemoine, a well-known radio personality in Haiti, who encourages callers to leave a message. Three thousand people have called in.

“I’m a mason,” one says. “I care for children.” “I’m a car mechanic.” Another adds: “I have taken it upon myself to wander the streets looking for those who have lost limbs, and I volunteer to sing to them to make them happy.”

Zinman says the calls are then transcribed and translated and are posted online as a searchable resume for organizations, like the American Red Cross, to find them.

Along with some grants, the pair won \$8,000 in the 2010 MIT IDEAS Competition to work on the technology. That competition is an invention and entrepreneurship contest that encourages students to change the world.

Launching the service remotely, neither Elliott nor Zinman ever has been to Haiti. They met 11 years ago as college roommates at the University of California, San Diego. They are now working together to soon launch a software services and applications company.

Zinman says: “Instead of just building another technological gadget that’s cool, we asked ourselves, ‘Can we actually make a huge impact on an economic situation in a chaotic country like Haiti?’ It’s been interesting not only in an academic way, but also in a humanitarian way. The biggest thing we’ve learned is that the power of people to join together is extraordinary.”

— LIZ KARAGIANIS



“The biggest thing we’ve learned is that the power of people to join together is extraordinary.”

After the Haiti earthquake, Aaron Zinman (far left) and Greg Elliott launched a service that makes it possible to index the skill sets of local residents so agencies can find them after a crisis.

educating global citizens

When the nuclear disaster unfolded this spring in Japan, Sara Ferry had a better understanding of the situation than most college seniors. Thanks to the MIT International Science and Technology Initiatives (MISTI), she spent last summer working on commissioning tests for a new nuclear reactor in Finland, receiving hands-on experience rare for an undergraduate.

“I got a chance to see what goes into putting a reactor online,” said Ferry, who worked in Paris as an intern at Areva, the nuclear energy company building the Finnish plant. “When you go to commission the safety of a plant, you consider events you never expect to happen.”

A nuclear science and engineering major, Ferry said that while Japan faced “the worst possible chain of events,” she hopes that there isn’t a huge backlash against nuclear energy. “If we want to have power at the levels that we do, we really don’t have a choice.”

Ferry is just one of about 500 MIT students and recent alumni who gained international work experience through MISTI last year. The program currently supports professional and research internships in 11 countries — Brazil, Chile, China, France, Germany, India, Israel, Italy, Japan, Mexico, and Spain. In addition, hundreds of MIT students have had the chance to work with faculty supported by MISTI’s Global Seed Funds on projects in Australia, Russia, Uganda, and elsewhere.

“Hands-on experience outside their home country is indispensable to students who hope to compete in today’s global economy,” said Suzanne Berger, director of MISTI and a professor of political science. “International internship programs are a growing trend, but MISTI was a pioneer, and our model remains unique. We see it as core education so we make sure all student costs are covered — even air fare.”

MISTI made it possible for Ferry to live and work within sight of the Eiffel Tower. “It guarantees you will have the funding that you need to be able to go, because not all the internships pay a living wage,” Ferry said.

MISTI also helps students acquire language skills, learn about the culture of their host country, and navigate logistical issues such as obtaining a visa and finding housing.

“The first time you go abroad can be intimidating,” Ferry said. “With MISTI, someone’s there for you.”

She first traveled to France the summer after her freshman year, when MISTI helped her secure an internship at CEA Grenoble, a technological research organization funded by the French government. Ferry conducted research into applied physics and received credit for her work in a scholarly journal.

Last year, she spent the summer working with an international team of scientists and engineers on the commissioning of Olkiluoto 3, a pressurized water reactor slated to begin commercial operations in Finland in 2012. “I was writing software so that the engineers onsite could calculate the coolant flow,” she said. “It made the project a lot more fun to know it wasn’t just any job for an intern...what I was doing was a useful and needed task.”

In the fall, Ferry intends to return to MIT to pursue a doctoral degree in nuclear science and engineering — but first she plans to spend another summer in Paris. She recently received a fellowship from the Dean’s Office in the School of Humanities, Arts, and Social Sciences to work at La Laboratoire, an experimental art-science museum in Paris.

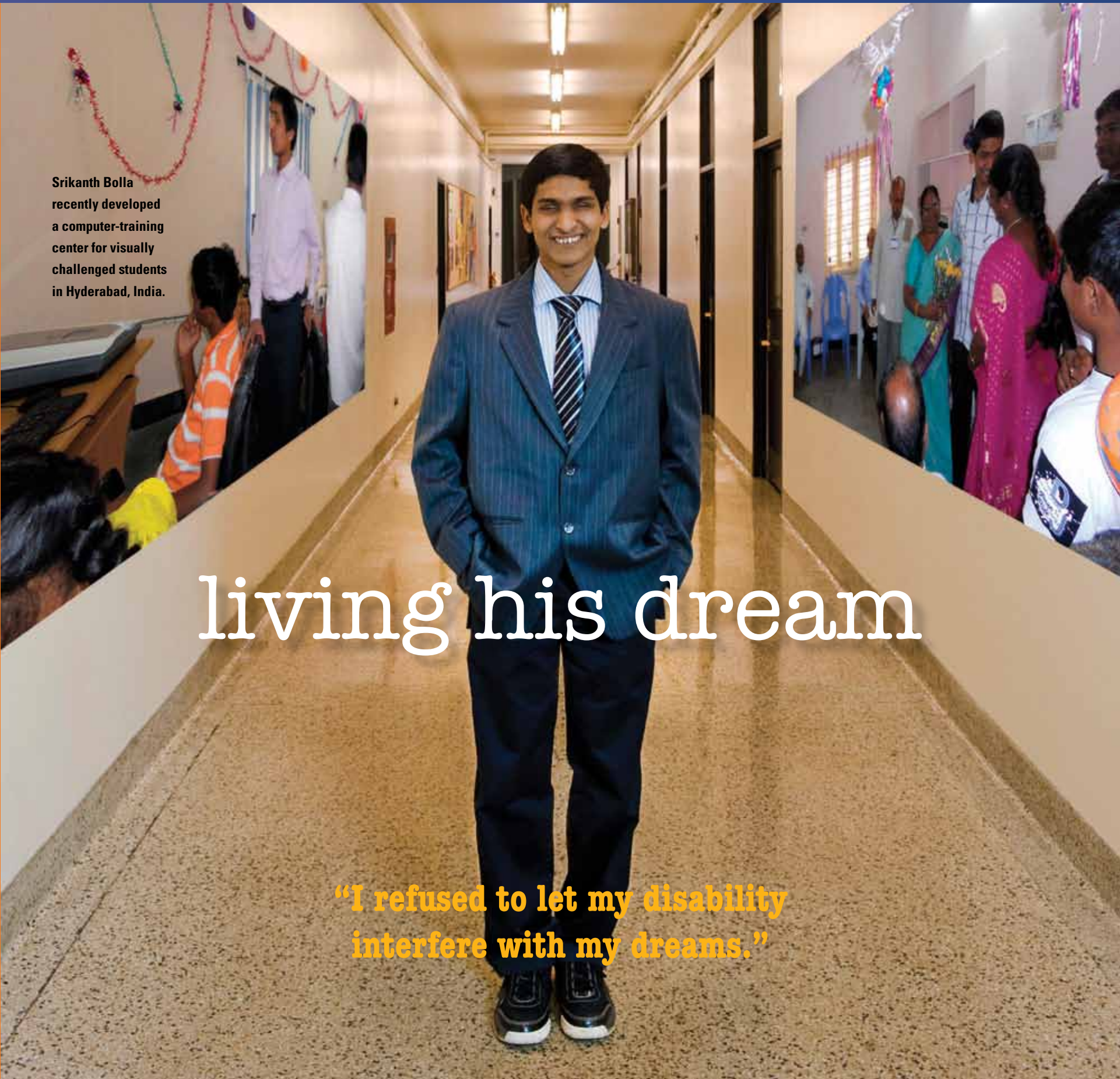
“For three summers in a row now, I’ve found a very precise job that I really wanted and MISTI helped me get that job,” Ferry said. “The big thing about MISTI is that they make sure that price is not an obstacle to going abroad...MIT really wants us to have that opportunity.”

— KATHRYN M. O’NEILL

Sara Ferry worked in Paris at Areva, a nuclear energy company.

“Hands-on experience outside their home country is indispensable to students who hope to compete in today’s global economy.”





Srikanth Bolla recently developed a computer-training center for visually challenged students in Hyderabad, India.

living his dream

“I refused to let my disability interfere with my dreams.”

Srikanth Bolla — a 19-year-old sophomore who is blind — recently realized a dream when he traveled to Hyderabad, India, to develop a computer-training center for visually challenged students.

“If we train the blind to get computer skills, they will excel independently and be able to get good jobs,” he says.

Last year, Bolla shared his dream to create the center with staff at MIT’s Public Service Center, which provided Bolla with a fellowship and the know-how to make his dream come true.

First, he created a curriculum, then with additional grants, he bought five computers, rented a building, hired a faculty member, and began 10-week computer classes. The center now trains 30 blind high school students each year, but with more funding, he hopes to add more computers and more students.

“The best way to narrow the gap between the visually-challenged and others is education,” says this management student, who plans one day to launch a company that develops ad-

vanced technologies for multi-disabled people.

Blind since birth, Bolla was raised in a tiny Indian village, where illiteracy is rampant. “Villagers told my parents: ‘He cannot see. Let him die.’ My grandmother said, ‘No. One day he may be useful to our family.’”

“I spent my childhood in loneliness,” he says, adding that he wanted to play sports and games with other children, but they gave him no attention. At age seven, an uncle urged him to enroll in a school for the blind in Hyderabad, a city 250 miles away. Homesick and unhappy, he tried to run away. His uncle asked him gently: “What kind of life will you have at home?”

Soon after, Bolla made a commitment to excel. “I worked hard, and I never looked back.” First, he learned Braille, then English, then how to use a computer. He won awards in debating, creative writing, chess, and blind cricket. He became the school’s top student.

Bolla loved science, but blind students in India were allowed to study only the arts. He and a teacher fought his case before the school board and won. Now, thanks to his efforts, all blind students in India can study science beyond grade 10. “I refused to let my disability interfere

with my dreams,” he says.

Bolla, who now stars on a blind baseball team in Cambridge, is working with the Board of Education in the Indian state of Andhra Pradesh to get his computer-training course accredited. His other goals include expanding the computer center to several locations in India, finding jobs for trained students, and raising money to educate more young people.

“My lifetime ambition is to become the President of India,” says Bolla, who was a member of Lead India 2020, a national movement to train youth in leadership, human values, and employment skills. The idea is that the transformed 540 million youth would lead India to become a developed nation by 2020. In 2010, Bolla received an excellence award from that organization from the former President of India.

“I want to dedicate my life to community and social service,” he says. “I want a place in society where people look up to me as a role model and great leader.”

— LIZ KARAGIANIS

published author

Carla Perez-Martinez remembers the first time she met with Professor Paulo Lozano to discuss a project that led to her work on a technique for the microfabrication of computer chips. “I was just so lost,” says Perez-Martinez, a senior who was then a sophomore.

But she’d worked hard to land a project through the Undergraduate Research Opportunities Program (UROP) — Lozano was the sixth faculty member she’d approached — and she was determined to persevere. Seven months later Lozano, an associate professor of aeronautics and astronautics, asked her, “just like that,” if she’d go to France for the summer to collaborate with a team working in the same area. “I did not believe it until I was on the plane.”

The experience, she says, was amazing. “I mean, I got to tour Paris every weekend, while during the week I did this awesome research.” Specifically, she was working with a technique pioneered in Lozano’s lab to create a beam of electrically charged particles. These, in turn, could be used to etch the surface of silicon with a number of advantages over the particles derived from a more conventional source.

Lozano’s confidence in the 21-year-old from Costa Rica paid off. Her summer in France resulted in a peer-reviewed paper in the *Journal of Vacuum Science Technology B*. Perez-Martinez is first author; coauthors are her French colleagues and Lozano.

In addition, Lozano later asked Perez-Martinez to present further results on a poster at a 2010 conference on micro and nano engineering in Genoa, Italy. The poster, one of about 400 at the conference, won first place for lithography, a way of creating patterns on surfaces. A paper on that work will come out later this year in the journal *Microelectronic Engineering*; Perez-Martinez is again first author.

The research wasn’t easy. Perez-Martinez remembers changing the experimental apparatus at least 20 times to get it to work, then having to monitor it for seven hours during each experimental run (with an occasional five-minute break). “Believe me,” she says, “it was not all happiness.”

Nevertheless, “This has been the best UROP anybody could ask for,” she adds, emphasizing the collegiality and helpfulness of Lozano and the graduate students. She also notes the importance of the funding that allowed her to participate in UROP; a few times she wasn’t sure that funding would continue. “So I mean, having alumni give back to the program is like, phew!”

Perez-Martinez aims to go on for a doctorate, hopefully in the same field, with the ultimate goal of becoming a professor. Because of her UROP experience, she says, she’s been accepted to every school she applied to.

In the meantime, she has one more commitment related to her UROP research. She’s been asked to present her results at yet another major conference, returning to campus just a few days before graduation. “I’m still in disbelief,” she says.

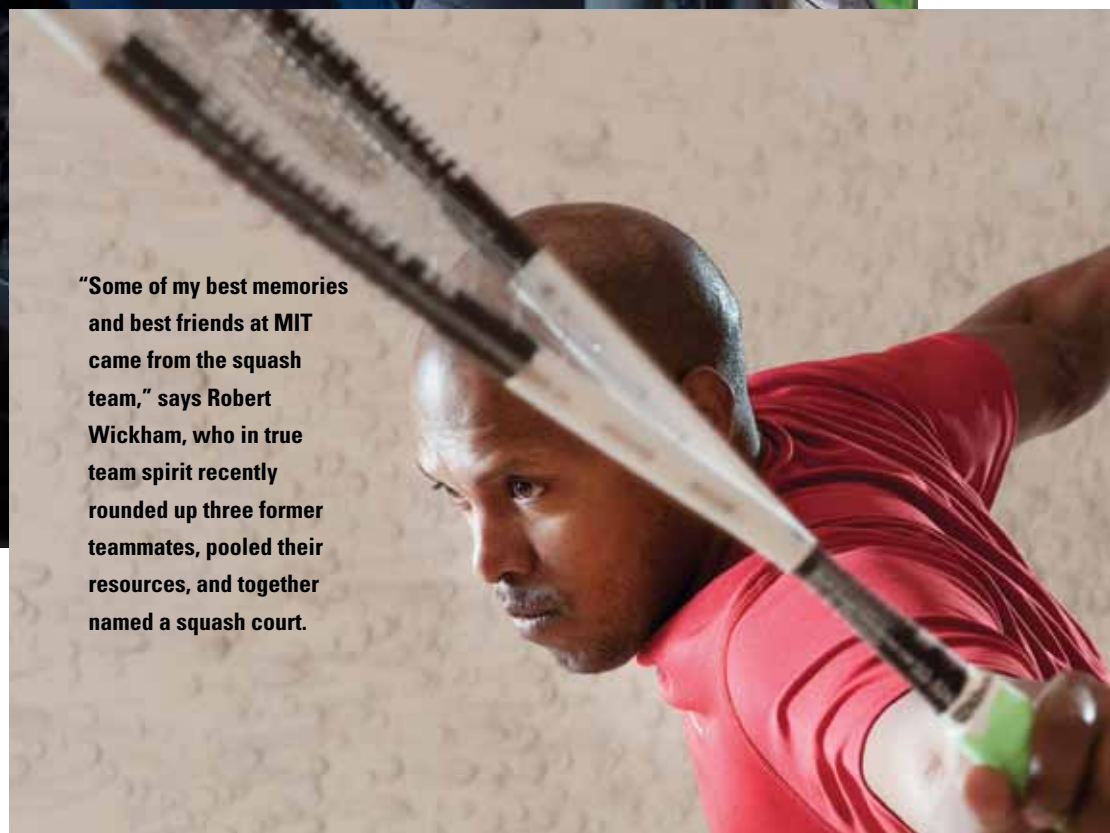
— ELIZABETH THOMSON

“The research wasn’t easy. Perez-Martinez remembers changing the experimental apparatus at least 20 times to get it to work.”

Carla Perez-Martinez, lead author on a published paper, is shown here at MIT’s Space Propulsion Lab.

PHOTOS BY LEN RUBENSTEIN

“Some of my best memories and best friends at MIT came from the squash team,” says Robert Wickham, who in true team spirit recently rounded up three former teammates, pooled their resources, and together named a squash court.



better than walking

Gabriel Sanchez says there was no good public transportation in Mayaguez, Puerto Rico, where he grew up. “I just learned to walk fast,” he says, adding that he has long had a dream to create mobility for others.

Now, Sanchez plans to help cities around the world redesign their transportation systems — improving entire systems for buses and trains — whether it’s changing the routes, changing the fares, or making the schedules more reliable.

The 24-year-old graduate student, who is in the transit research group at MIT, studies civil and environmental engineering. “It’s a dynamic field,” says Sanchez, who plans to earn a master’s and Ph.D., and who came to MIT last fall after working in San Juan for a year helping to improve that city’s bus system.

Sanchez, who speaks English, Spanish, and a bit of Italian, first came to MIT at age 16 to participate in MIT’s Minority Introduction to Engineering and Science (MITES), a six-week summer program for high school juniors interested in careers in science, engineering, and entrepreneurship.

“I absolutely *loved* it. It was a life-changing experience. I tested my limits of learning and of what I could do. It just opened up my world to new opportunities,” says Sanchez, adding that one big lesson was “that I actually could get into MIT!”

He applied to the Institute as a freshman and was accepted. “But I was not able to attend because the financial offer was not enough for me and my family,” he says. “I decided to make the best of it.”

Determined to keep a good attitude, instead he enrolled at the University of Puerto Rico, where he held a 4.0 average and excelled in his activities. For two summers during college, he did return to the Institute to serve as a teaching assistant in the MITES program.

Last year, Sanchez reapplied to MIT as a graduate student. Funding now has made it possible for him to study at the Institute. Currently a

Gabriel Sanchez,
who often travels on
foot, plans to redesign
public transportation
systems for people
around the world.

“...When people take a bus or train five, or 10, or 20 years from now, maybe the system will work better for thousands of people...”

recipient of an MIT Presidential Fellowship, he says: “The fellowship has given me so much freedom, including the freedom to define my research without restriction. I am very grateful.

“Donors help to connect talented students and talented faculty to do great research that potentially results in improvements, whether it’s in the area of artificial intelligence, developing medical devices, or even working on cures for cancer,” he says.

“A donor might think that they’re just supporting me, but really, when people take a bus or train five, or 10, or 20 years from now, maybe the system will work better for thousands of people, just because of them.

“I think about that a lot.”

— LIZ KARAGIANIS

the spirit of the team

“Health and fitness are just part of my DNA. If I don’t work out multiple times a week, I feel off kilter,” says Robert Wickham ’93, who believes that every day of life is a new game.

An athlete since he was a boy in Trinidad, where he twice played on the national cricket team, Wickham had heard that Americans don’t play cricket, so when he came to MIT, he decided to play squash.

“It’s been a great way of saying, ‘Hey, we were here, and we cared.’”

“Some of my best memories and best friends at MIT came from the squash team,” says Wickham, who in true team spirit recently rounded up three former teammates, pooled their resources, and together named a squash court at MIT. When he and those friends played at MIT, the varsity team was one of the best in the country.

“Naming the court has given us a lot of collective pride, and it also has been fun,” Wickham says. “It’s been a great way of saying, ‘Hey, we were here, and we cared.’ It’s like being a student and etching your name on a tree. You come back a couple decades later and say, ‘Look, here are our names!’”

Wickham says that those former teammates — Matthew Trevithick ’92; Graham Fernandes ’93; and Safroady Yeboah-Amankwah ’93 — now live in various cities across North America. And whenever Wickham is in one of those cities for business, he makes it a point to arrange a squash match with each of his friends. “It’s a great way to stay in touch,” he says.

Wickham earned an MIT bachelor’s degree in 1993 and a master’s degree in 1995, both in aeronautics and astronautics. After a stint with the

Boston Consulting Group in New York, he worked on business development for Go Fly, a British airline. After earning a degree from Harvard Business School in 2000, he joined Empirix, a Waltham, Mass. software company where he was director of sales until 2008, when the company was sold to Oracle. He is now responsible for Oracle’s 10-member sales team that sells system management software.

“There’s a lot of fulfillment knowing that you’re working to move

the needle in a positive direction,” says Wickham, who has served on several Institute committees and also has served as a member of the MIT Corporation. In addition, he is a member of the MIT Alumni Fund Board and is chair of the William Barton Rogers Society, a community of Institute supporters. He also works to promote sports.

“Considering the rigors of an MIT education, sports are an important physical outlet for mental health and well-being,” he says. “Athletics is a great complement to an intense work environment. Days when I’m physically active, I feel more alert than days when I am not.”

When he first came to MIT, Wickham was advised by a coach to only play sports he could pursue for life. Now, he says, “I play squash every week. I play tennis, golf, and teach spinning.”

His passion is to provide sports opportunities for others at MIT, he says. “I like to give money where there’s potential for the gift to multiply.

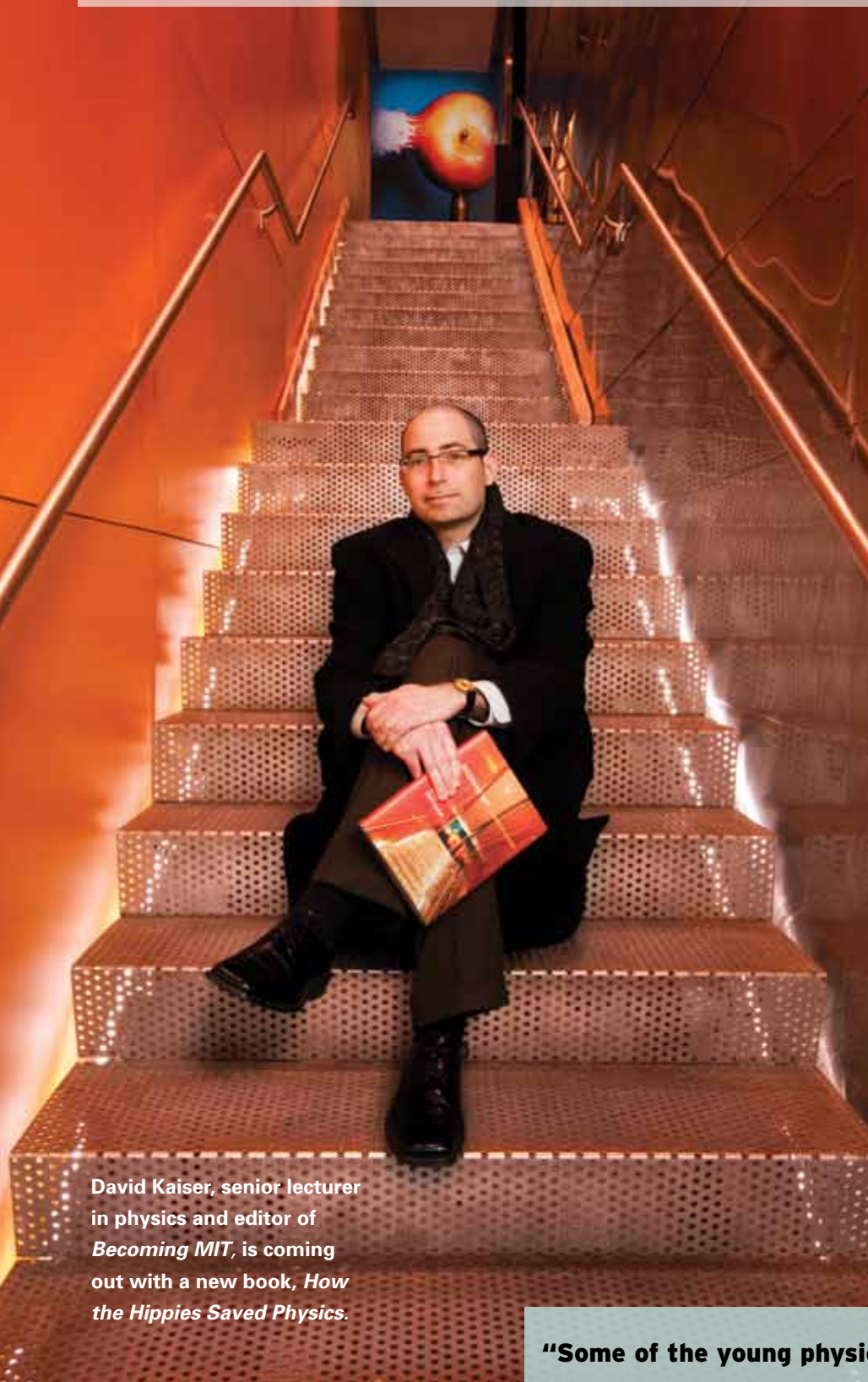
“Maybe one day, a shy, physically undeveloped kid who comes to MIT will be encouraged by his roommate to play squash, and in that experience will find confidence and will become a tycoon of American business.

“That,” he says, “would be cool.”

— LIZ KARAGIANIS

MIT HISTORIAN'S TALE

How “hippie physicists” launched a field



David Kaiser, senior lecturer in physics and editor of *Becoming MIT*, is coming out with a new book, *How the Hippies Saved Physics*.

Len Rubenstein

The terms “hippie” and “physicist” don’t make for an obvious fit. But David Kaiser is coming out with a new book that not only demonstrates a link but also says hippie-era physicists actually helped set the stage for some of the field’s most exciting new directions.

Kaiser is professor of the History of Science in MIT’s Program in Science, Technology, and Society, and is himself a theoretical physicist. The focal point of his book, *How the Hippies Saved Physics*, is a renegade band of young physicists who got together in the Bay Area starting in the early 1970s.

It was a tough time for the field, mainly because the Defense Department was cutting back sharply on its previously lavish support of graduate physics education. “Many fields were hit,” notes Kaiser, “but physics fell fast-

est, hardest, deepest.”

Kaiser’s hippies, some 10 in number, were graduates or soon-to-be-graduates of top universities. These young scientists, who aspired to academic careers but faced serious odds against realizing that dream, began to meet informally. “They called themselves the Fundamental Fysics Group,” says Kaiser, “and they gathered at Berkeley nearly every week for about four years.”

The group’s special interest was “entanglement,” one of those phenomena that give physics a reputation for trafficking in the mysterious and bizarre. (Einstein himself described the idea of entanglement as “spooky actions at a distance.”) Among the reasons for entanglement’s then-questionable reputation is that it seemed to imply interactions between various types

of particles — including the electrons that keep our lamps lit — that were not just faster than the speed of light but, in fact, instantaneous.

Not all particles are entangled in this sense. But once two particles, including electrons, develop such a bond, they’re truly wedded.

The basic idea, says Kaiser, is that “your measurement of entangled particle A over here will instantly, and at arbitrary distances, affect what you find when you measure particle B over there.”

Stranger still, entanglement suggests that quantum particles don’t even have definite values for various properties, like their spin along a particular axis, until someone actually measures this property. In fact, if you assume that entangled electrons A and B each have their own values of spin along the x axis in the absence of such a measurement, you’ll be in direct conflict with what both quantum theory and many convincing experiments tell us. In other words, the properties of each particle of an entangled pair are in effect up for grabs until those properties are specifically measured. And here’s the kick: entangled electron B’s spin is instantaneously fixed once A is measured — and no matter if B happens to be, say,

NOT SURPRISING

It may not be surprising, then, that the hippies found allies among West Coast New Agers. One was the owner of the high temple of New Ageism, the Esalen Institute, 150 miles south of San Francisco. “The longest-running seminar series at Esalen wasn’t on yoga or acid,” notes Kaiser, “it was on quantum physics.”

The hippies also spread the word through a kind of parallel publishing universe. An eccentric advocate circulated Xeroxed, entanglement-oriented preprints and clippings to a selective physics readership. Certain members of the group, meanwhile, cracked the book-publishing world — in some cases, in spectacular style.

Fritjof Capra, for example, wrote a popular book on quantum theory and its purported similarities to Eastern mysticism. Put out by a niche publisher, it seemed unlikely to make a splash. In fact, over the succeeding decades *The Tao of Physics* sold millions of copies. “It’s been published in 43 editions and 23 languages,” notes Kaiser.

In the end, the hippies found their way in the world. Aside from those who became writers, there were a few who got on a standard academic track. Others became lab researchers, entrepreneurs, or consultants.

Whatever their career paths, Kaiser is in no doubt of their influence. In fact, he sees the group as having helped to bring careful study of quantum weirdness back into mainstream physics. And that in turn has enabled explorations of how to put emerging quantum discoveries to work.

The main consequence of the efforts to apply these findings is quantum information science (QIS), which has promise in areas from keeping sensitive communications completely secure to building ultra-fast computing systems.

MIT is on the front lines of this new field. Its faculty ranks include several of the world’s experts in quantum computing. And it recently got a \$3 million federal grant to launch a brand-new graduate program in this frontier realm.

But QIS isn’t just about research. “It’s now a multibillion-dollar industry worldwide,” notes Kaiser, adding that “today’s thriving field is a far cry from its humble hippie origins.”

— RICHARD ANTHONY

“Some of the young physicists, thought entanglement didn’t just sound like mental telepathy but might actually be the explanation for telepathy.”

half-a-galaxy away from A.

Kaiser’s hippies elaborated on quantum entanglement. Group member John Clauser, meanwhile, contributed the world’s first measurements of entanglement in a lab, proving that its implausible implications are real. “He did a series of quite ingenious experiments,” notes Kaiser, adding parenthetically that “even so, he could never get an academic job.”

In the heady atmosphere of the ‘70s Bay Area, entanglement seemed to offer a key to understanding a lot of non-physics phenomena as well as events in quantum physics. For example, some of the young physicists, says Kaiser, “thought entanglement didn’t just sound like mental telepathy but might actually be the explanation for telepathy.”

ALONE TOGETHER

So busy communicating, we neglect each other

WE'RE LONELY.

"That's why we're so busy communicating. We're seduced by the possibility that we're always connected, always wanted, always needed," says Sherry Turkle, adding that we're so enmeshed with our connections that we neglect each other.

Recently, Turkle published *Alone Together: Why We Expect More from Technology and Less from Each Other*. Based on 15 years of research and hundreds of interviews with children and adults, the book tells the story of the new disturbing relationships among parents, children, sweethearts, and friends and reveals that beyond our incessant communication lies a deep human need for stillness, solitude, and intimacy.

"Most people love the technology, but we're texting at meals, texting at funerals. Are we willing to just be on a treadmill of communication without real connection?" says Turkle — the Abby Rockefeller Mauzé Professor of Social Studies of Science and Technology in MIT's Program in Science, Technology, and Society — who is founder and director of the MIT Initiative on Technology and Self.

In her book, Turkle offers the example of a 16-year-old boy, who got 100 text messages during the hour she interviewed him. As he set out to reply to them, he told her: "I can't imagine doing this when I get older." And then, more quietly added, "How long do I have to continue doing this?"

"This feeling is common among young people," she says, adding that many teens she interviewed dislike being "always on," but it's the only life they know. Many grew up with two parents texting at the dinner table or had mothers who pushed them on the swing with one hand and scrolled through the BlackBerry with the other.

"Multitasking teenagers are simply teenagers.

They want and need adult attention," Turkle says, adding because they grew up overcommunicating, "I think many will say, 'I'm not sure I want to do that when I am a parent.'"

WE'RE PERFORMING

We don't need to reject the technology, she says, just put it in its proper place.

Sometimes, Facebook is great, like for sharing photos or organizing a reunion. But, she adds, there are other forms of sociability, too — "your ability to sit with a friend and talk about her problems at work, or about her mother who's getting older, or about a death in the family, or an illness. None of this happens on Facebook."

Recently, she says, a woman tells her Facebook friends she is thinking of suicide. "And nobody responds. And when you interview those friends and ask, 'Why didn't you respond?' They say, 'Well, I didn't think I was *really* her friend.'"

"With social networking, we're performing. We put forth our best face, the one that will be seductive. You can't be your real self.

"People are using technologies for intimacy that were designed simply for efficiency. They've become popular in the area of intimacy because you don't have to reveal yourself. You can compose what you want to say until it's exactly the way you want."

Also, she says, the new technologies demand instant responses and offer us less time to think uninterrupted. "We don't allow sufficient time to consider complicated problems. What's 'out there'," she says, "is often just a lot of half-baked ideas," because that's all the speed of the technology allows for.

Another thing, she says, "there is a new sensibility. I call it, 'I share therefore I am.' You can't have a feeling or a thought without sharing it. That's dangerous, because with this orientation you're always looking to other people

for validation. You don't allow yourself to have your own thoughts and feelings."

NO AUTONOMY

Turkle writes that the cell phone has become a safety net for young people. "Many have divorced parents, families broken two or three times, some have parents who work out of state or out of the country, some have parents with travel schedules so demanding that their children don't see them. These teenagers live in a culture preoccupied with terrorism. They all experienced 9/11. They have grown up walking through metal detectors at schools and airports. They tend not to assume safe passage. The cell phone is their safety."

Parents give a cell phone to their child and expect them to answer. But she writes: "The tethered child does not have the experience of being alone with only him-or herself to count on.... There used to be a point for an urban child, an important moment, when there was a first time to navigate the city alone. It was a rite of passage that communicated to children that they were on their own and responsible."

"The cell phone prevents that experience," she says. "And when you're connecting with 100 people in an hour, what kind of autonomy is that? If you don't teach your children how to be alone, they only know how to be lonely."

Along with the convenience of technology, we pay a price, says Turkle, who urges us: Instead of sending an email, talk to colleagues down the hall. And "no cell phones at dinner, on the playground, in the car, or in company.

"No matter how difficult, it is time to look toward the virtues that Henry David Thoreau pointed us toward — solitude, deliberateness, and living fully in the moment."

— LIZ KARAGIANIS

Prof. Sherry Turkle says if you don't teach your children how to be alone, they only know how to be lonely.

Richard Howard



"A woman tells her Facebook friends she is thinking of suicide. And nobody responds. And when you interview those friends and ask, 'Why didn't you respond?' They say, 'Well, I didn't think I was *really* her friend.'"

INNOVATIVE IDEAS

Winner of Lemelson-MIT Student Prize for invention



Photographer Andy Ryan transcends time and space with these four images of Alice Chen, who is shown not only smiling in the foreground — but is also shown working in the background.

Andy Ryan

Alice Chen just received a Ph.D. from MIT and is already proving the potential of biomedical engineering to make human health care safer and more effective.

Cofounder of a biomedical startup, Sienna Labs, Chen recently won the \$30,000 Lemelson-MIT Student Prize for invention for her innovative work in microtechnology — including developing a humanized mouse with a tissue-engineered human liver.

The work should greatly speed the testing and approval of new medications. Currently, approximately 90 percent of all drugs fail in clinical trials — many due to unforeseen liver toxicity. Since animal livers differ from those in people, using this model for testing should reveal toxic compounds earlier and with less risk to human health.

Improving health care is common to Chen's work, which has produced numerous new technologies over the past six years. "I always wanted to

Another factor of her success, she said, was entering biomedical engineering at a time when the field was still defining itself. "We didn't have a curriculum, so my cohort and I had to make our own," she said. "I think it was unofficial training for how to later figure out how to meld different disciplines."

Fascinated by the prospect of interfacing biological materials with synthetic materials, Chen sought to do her doctoral research with Sangeeta Bhatia, MD, an MIT professor of health sciences and technology and electrical engineering who has pioneered the use of microtechnology and nanotechnology to repair and regenerate tissue.

"She was so accomplished, yet approachable. I knew I could learn from her not just science, but work-life balance and how to be a successful leader in a male-dominated field," Chen says of Bhatia, who is also a Howard Hughes Medical Institute investigator.

Chen focused her research on the liver because Bhatia's lab was growing

"The message I want to give young people is that you should just work hard at what you love to do."

do something creative, but health-care related," said Chen, citing the influence of her mother, a clinical nutritionist. Her research has led her to apply for five patents; she also recently launched Sienna Labs (www.siennalabs.com), a company that has developed a new class of medical pigments to enhance microsurgeries for skin disease.

"I'm excited about Sienna Labs because of its potential to rapidly make a difference in dermatological medicine," Chen said. "Lasers have a limited range of efficiency and safety. Procedures are therefore either ineffective or dangerous....The pigments we've developed can help lasers work better."

COLLABORATION KEY

Collaboration has been key to her success. "Critical to my work was conjoining techniques and ideas from different labs and fields — and doing it with brilliant people," said Chen, who this spring received a Ph.D. from the Harvard-MIT Division of Health Sciences and Technology and Harvard School of Engineering and Applied Sciences.

hepatocytes (liver cells) in artificial arrays — work preparatory to the goal of tissue engineering, which is to make artificial organs. And, while the liver Chen developed remains far from one that could be transplanted into a person, she said she was thrilled to discover her invention worked. When she first saw the human liver tissue vascularized within the mouse, she said, "I remember thinking, whatever happens, this is really cool."

It's the same phrase she uses to describe how she felt when she first looked through a microscope as a child — which may be why Chen spends so much time encouraging young people. "I try to expose people to how fun science and technology is," said Chen, who mentors MIT and Harvard undergraduates and volunteers in the community.

Chen maintains that science, engineering, and innovation are accessible career pursuits for anyone who's interested. "The message I want to give young people is that you should just work hard at what you love to do."

— KATHRYN M. O'NEILL

DATA CENTER ON A CHIP

The data centers that bring us the likes of Google and Amazon are huge facilities crammed with computers that draw lots of energy. “Big Web server companies are opening up their data centers close to dams because they consume so much power,” says Anant Agarwal, an MIT electrical engineering and computer science professor who aims to change all that by putting the equivalent of a data center on a chip.

Agarwal is designing chips that contain thousands of processors, or cores. These many-core chips will save space. They’ll also use 5 to 10 times less energy than today’s chips because they’ll run at a lower clock speed, which allows operating at a lower voltage, Agarwal says.

He and his MIT colleagues have already worked out how to put dozens of cores on a chip in an energy-efficient way using a concept called tiling. That technology is being commercialized by Tiler Corporation, where Agarwal is a founder and CTO. The company produces chips with as many as 100 cores.

He and his team at MIT are pushing the technology further by looking to biology. They’re developing computers that, like living organisms, monitor and adjust themselves in real time. “We are developing architectures and software systems that are constantly observing the computation as it progresses, and constantly taking actions to achieve the user’s goals,” Agarwal says.

This new computational model, Self-Aware Computing, is the key to building thousand-core chips. These chips would be more powerful and use less energy than today’s, but would have many parts. “When you have thousands of cores on a single chip you can no longer make the assumption that everything is working and reliable at all times,” Agarwal says. “Things are going to be failing.”


But such self-monitoring, self-adjusting chips will be able to recover from problems. They’ll also be able to change the number of cores assigned to a particular computation to, for example, use more cores to get the job done faster. And they’ll be able to move computations to different groups of cores in order to manage power use.

With today’s chips, the longer you run a computation, the hotter the computer gets. Keeping computers from overheating takes energy. “Imagine if I have a computer where the longer it runs a computation the cooler it gets because it is learning about the computation and taking steps to make itself cooler,” Agarwal says, adding that that’s part of his vision for computers of the future.

Thousand-core chips are a promising route to exascale computers, which can process a mind-boggling quintillion instructions per second. A quintillion is a one with 18 zeros after it. An exascale computer would be more than 1,000 times faster than today’s most powerful supercomputer, and could simulate complex systems like the global climate. MIT is one of four research centers the Defense Advanced Research Projects Agency (DARPA) is funding to develop exascale computers.

Computers like these are probably 10 years or more down the road, but that’s right where Agarwal likes to be. “MIT has been the perfect place where thinking far out, out 10 to 20 years, is not viewed as crazy.”

— ERIC SMALLEY

A close-up photograph of Anant Agarwal, a man with a mustache, looking directly at the camera. He is holding a small, square, black integrated circuit chip in front of his right eye. The chip has a grid of gold pins on its surface. The background is dark, and the lighting is dramatic, highlighting his face and the chip.

“Anant Agarwal is designing chips that contain thousands of processors, or cores, which will use 5 to 10 times less energy than today’s chips.”

Anant Agarwal is putting the equivalent of a data center on a chip.

MATERIAL ECOLOGY

Uniting principles of engineering and nature

Neri Oxman sees far more than a world in a single grain of sand. Every natural form she studies suggests a revolution in building and design to this director of the Mediated Matter Group and the Sony Corporation Career Development Professor at the MIT Media Lab.

“What nature accomplishes in bones or trees, we could achieve in products and buildings. Every solution to any design problem is a function of changes in scale.” Gigantic or microscopic, she says, “Nature is so beautiful and efficient.”

Oxman’s field, which she named “material ecology,” seeks to unite principles of nature with those of engineering to create new materials for architecture and design. The process of getting from nature to novel materials, known as computationally enabled form finding, is “where all the fun is,” she says.

In her current research, Oxman starts on the microscopic scale, analyzing, say, a butterfly-wing’s microstructures. She translates these into a 3-D printing environment; this generates a composite material that behaves like the butterfly wing but exists in a whole new form. Scaled up, such composites could transform our built landscape.

“My work is the antithesis of Bauhaus modernism,” she says. “My dream is to generate technology to build innovatively.”

Two samples of Oxman’s work sit on a table in her office. Both were produced by 3-D printing, and both apply her work to human-scale problems. “Bodies are so handy,” she says. “A great design site to occupy.”

One sample, a swatch of rubbery tan stuff traversed by vein-like trenches is the basis of Oxman’s carpal tunnel splint. Having endured the syndrome and the cookie-cutter splints available, Oxman “printed” her own. In her splint, a patient’s “pain map” becomes a program that tells the printer to inject stiffer material into the “veins” and leave the rest soft and flexible.

A second sample stands in for her best-known prototype, a chaise lounge called “Beast.” Built in collaboration with MIT materials scientist Craig Carter, Beast is composed of five materials, each providing a specific degree of support. Ultimately, Oxman hopes to produce single materials of variable density – that is, materials that can multi-task.

The daughter of two architects, Oxman, 35, grew up near Haifa, Israel’s northern seaport. Her childhood bedroom overlooked the Mediterranean, and each day in Boston she still seeks the sight, sound, or smell of the sea. In summer, she regularly swims across Walden Pond. “For me, water and the sea are spiritual: Anything — infinitely — is possible.”

Like all Israelis, Oxman spent three years in mandatory military service. “One achieves instant maturity as an officer in the Air Force,” she says.

Post-military, she planned to become a medical doctor. “Studying human tissues has certainly helped my work. But I was more at home with synthesis than analysis,” she says. “I realized good design is a social contribution.”

She switched to the Architecture Association School in London then came to MIT, earning a Ph.D. in design computation in 2010. At the same time, she earned distinction as a designer: The Museum of Modern Art displayed her work in 2008 and has 10 pieces in its permanent collection.

At MIT, Oxman relishes the freedom to work creatively. She challenges her students to look anew at familiar objects, the better to learn from what’s inside.

Consider the eggshell, she tells them. “Freeze it. Burn it. Check the microscope. What is the material doing? What does it *want* to be doing?”

Micro-structurally, an eggshell looks like the guts of an old golf ball. This delights Oxman. “It’s a fibrous reticulated mesh! It’s a system of variable density!”

Nature lights the way, she says. “In fifty years, we could have cranes that can ‘weave’ a skyscraper, optimizing both stability *and* flexibility so it can twist with a tornado.”

And in 2111? Oxman smiles. “Materials will become the new software. Buildings will grow like trees and self-repair like bones.”

— SARAH WRIGHT



*“Materials will become
the new software.*

*Buildings will grow like
and self-repair like*

RESISTING CANCER

Harnessing the immune system against tumors

Neri Oxman's field, "material ecology," unites principles of nature with those of engineering to create new materials for architecture and design.

trees
bones."

Len Rubenstein

Jianzhu Chen's scientific career — which may one day lead to a cancer vaccine — almost never happened. He came of age during the Chinese Cultural Revolution of the 1960s and 1970s that oppressed educated citizens and shuttered academic institutions.

Fortunately, he says, "When I graduated from high school, that was the first year China allowed students to go to university."

After attending Wuhan University, Chen enrolled at Stanford under a then-new program that admitted about 50 Chinese students to U.S. graduate schools.

Today, he is the Cottrell Professor of Immunology and a member of the David H. Koch Institute for Integrative Cancer Research at MIT. His laboratory is painting a clearer picture of how cancer defeats the body's protections against disease. How? By recreating human tumors and immune responses in mice. While mice that carry functioning human genes, cells, and tissue have existed for decades, Chen has achieved a technological breakthrough in mimicking human biology.

"His laboratory is painting a clearer picture of how cancer defeats the body's protections against disease."

"This might bridge the gap between animal models and human patients," he says. In other words, testing cancer therapies and vaccines on this new generation of laboratory subjects would help researchers identify only the most promising ones for human clinical trials.

TECHNOLOGICAL FEAT

In many cases, our immune cells destroy cancer cells before they turn into a detectable tumor. The immune system also plays a role in rare instances when a developed tumor vanishes without intervention. But, eventually, most tumors trick the immune system into overlooking cancer cells as they multiply and spread.

"We would like to identify how tumor cells suppress the immune response," says Chen. To do that, he developed a mouse in which prostate tumors occur spontaneously.

"Most people have been studying cancer immunotherapy in transplanted tumors. Unfortunately, this model does not mimic what's really going on in naturally occurring tumors," he says. Naturally occurring tumors grow much more slowly than transplanted tumors. That makes them a better environment for studying an anti-tumor immune response, a process that takes weeks.

The immune response in Chen's prostate-cancer model involves CD8 T cells, a type of white blood cell whose power to target tumors has captivated many cancer researchers. He and his colleagues have observed, for the first time, CD8 T cells infiltrating a prostate tumor and functioning for several days, after



Jianzhu Chen's work may one day lead to a cancer vaccine.

Len Rubenstein

which the tumor becomes tolerant to or inactivates them. Aided by this knowledge, the researchers are looking at ways to delay the suppression of CD8 T cells and reactivate those that remain within the tumor.

In a related breakthrough, Chen and colleagues at the Singapore-MIT Alliance for Research and Technology engineered the first strains of mice that produce the full complement of human immune cells. Compared to previous models possessing only a limited number of those cell types, the animals provide a more comprehensive view of the human immune system's response to a pathogen or vaccine. Chen's team recently programmed some of these subjects to develop human leukemia and have used them to evaluate potential therapeutics.

Engineering another animal to express several different biological characteristics originating in humans is a technological feat, says Chen. "To develop and optimize all the different components takes time." But overcoming these challenges, says Chen, "is exciting."

"We need to use the best models available for human cancer. If we test something and it's not a success, we can figure out why it's not working. And that may lead us down the path to something that's going to work in patients."

— LAUREN CLARK

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ATTRACTED BY MIT

At first, Marcela Donadio of Houston didn't want her son to go to MIT because Boston has cold weather. Now, she's glad he didn't listen to her.

"Over his years at the school, he's grown and changed," she says of her son Steven '11, who studies aeronautics and astronautics. "MIT has been just the right environment in which he can thrive."

Donadio and her husband, Larry Dickerson, were so impressed with the Institute's mission, excellence, and influence not only in their son's life, but in the life of the world — that recently they made a major gift to MIT to support renovations in Maseeh Hall, which opens this fall thanks to the generosity of Fariborz Maseeh ScD '90. The new facility will make it possible for MIT to expand the undergraduate student body to 4,500 students, an increase of about 250 from today's enrollment.

"It is MIT's mission to educate young men and women to become leaders in the world," Dickerson says. "We wanted to help create access to an MIT education for greater numbers of qualified students."

Maseeh Hall has been designed to foster community and teamwork to help meet MIT's rigorous demands. Not only will the residence provide living space but also social facilities, where students can learn from each other and gain communication and leadership skills.

Both experts in the field of energy, Dickerson is CEO of Diamond Offshore Drilling, a drilling company active in the oceans off six continents; Donadio is a partner at Ernst & Young, a top accounting firm where she is energy industry leader for North and South America. MIT's initiative to tackle the world's energy problem first sparked their interest in MIT and later led to their engagement. Dickerson now serves on the Institute's Earth, Atmospheric, and Planetary Sciences Visiting Committee, and Donadio is a member of the Corporation Development Committee.

"I'm delighted to be involved with MIT, and am particularly thrilled that we will continue our involvement after our son graduates," Donadio says.

Dickerson adds: "In the popular culture, 'MIT' is shorthand for genius. Through my involvement with the Institute as a parent, by serving on a Visiting Committee, and now by helping the MIT learning community grow, I am doing what I can to help expand the full impact of MIT to the world." — LIZ KARAGIANIS



Larry Dickerson and Marcela Donadio, parents of a son who graduates this spring, make a commitment to help expand MIT's learning community.