Dazzling Di

By Scott Hauser

RENÉE FLEMING '83E (MM) IS THE FIRST TO ADMIT THAT SHE LIKES TO SEEK OUT NEW ROLES for herself in the operatic world where she has reigned as the "people's diva" for more than two decades.

In just the past few months, the celebrated soprano and three-time Grammy Award winner has reprised the lead role of Rossini's *Armida*—which she describes as "the Olympics of singing"—recorded an album of indie rock songs, and taken a largely backstage appointment as the first creative consultant of the Lyric Opera of Chicago.

"To be a really fine musician, to be a musician period, you have to, at the very least, appreciate music history. And you have to be intellectually curious,"

Va

Sharing her talents with her alma mater, acclaimed soprano Renée Fleming ’83E (MM) helps set the stage for the next generation of opera singers.

BRAVA! Fleming acknowledges the audience at Kodak Hall with Neil Varon, director of the Eastman Philharmonia (third from left), and graduate student tenors Joshua Bouillon, Matthew Grills, and Eric Rieger.

BRANDON VICK

the Eastman School graduate says. “I have very eclectic tastes. It’s what I enjoy.

“Growing up in Rochester had a lot to do with that because there was so much to appreciate, and being in a family that was all about the arts sort of set me up for this.”

“This” is stardom that’s almost operatic in its own right. Since winning the Metropolitan Opera auditions in 1988 and making her Met debut in 1991, Fleming has captivated the world’s most discerning listeners with a full lyric soprano voice that fans and critics alike describe as rich, creamy, and extraordinary.

“In my long life, I have met maybe two sopranos with this quality of singing,” the legendary conductor Sir George Solti famously told the *New York Times* about his first encounter with Fleming’s voice. “The other was Renata Tebaldi.”

In February, Fleming helped set the stage for the next generation of opera performers as she shared her talents with her alma mater for a concert to benefit the new Renée Fleming Endowed Scholarship Fund for Eastman voice and opera students.

The three-hour performance, which left a packed Kodak Hall at Eastman Theatre clamoring for more, was a rare opportunity for

students, faculty, and other members of the University and Rochester communities to get a glimpse of why Fleming is acclaimed for her voice as well as for transforming the popular image of opera stars. Performing with Eastman's premier student orchestra, the Eastman Philharmonia, conducted by the Philharmonia's music director Neil Varon and Eastman School Dean Douglas Lowry, she moved effortlessly from the arias and art songs of Strauss and Puccini to the contemporary songs of the alternative rock bands Muse and Death Cab for Cutie.

"Renée Fleming's career has served as an exemplar of refined musical expression, exquisite taste, and courageous adventure," says Lowry. "Her preeminence in the operatic and recital world is unmatched, featuring a broad repertoire that melds traditional and unfamiliar."

For Fleming, the benefit was a homecoming that "was a long time in the making"—"Nothing in my schedule is spontaneous," she notes—and her first visit since the renovation of Kodak Hall and the opening of Eastman's new East Wing. The native of the Rochester suburb of Churchville, N.Y., earned a master of music degree from Eastman, studying with legendary voice professors Jan DeGaetani and John Maloy.

GUEST OF HONOR: As part of her visit to the Eastman School, Fleming received an honorary degree from Douglas Lowry, dean of the school.

"The most important thing, and the thing that separates Eastman from other conservatories, is that it's an academically oriented school," Fleming says. "I'm proud of that association because the musicology and theory and analysis classes that I took at Eastman set me on a path that's a little bit different from other singers. It piqued my interest in composers and how they fit together and into their various schools of thought."

The daughter of voice teacher Patricia Alexander, who has taught at the Eastman Community Music School for 14 years, Fleming grew up in a household of wide-ranging musical interests as well as opera and choral performances. She was already intrigued by song literature when she arrived at Eastman.

"That's different from most singers who specialize in opera," she says.

As the guest of the Eastman School, she made a point of ensuring that she would have time to perform with and meet with students. In addition to working with the Phiharmonia, during her encore, she waltzed with graduate student tenors Joshua Bouillon, Matthew Grills, and Eric Rieger.

She says students are often surprised at how difficult her climb to the heights of the operatic world were, a process that she recounts in her 2004 memoir, *The Inner Voice: The Making of a Singer.*

"People have an expectation, I think, that you have this talent, and so you go to college for four years and you're ready to go," she says. "It was such a longer, more arduous road for me.

"I think kids generally imagine that they're going to achieve everything," she says. "And I think it's only experience that begins to seize you and to teach you that maybe everything is not attainable. But I think it's a mistake when you're a kid to think, 'Well, I'll never make it.' That's precisely the time to think, 'Well, of course, I'm going to be singing at the Met.'"

Her visit to Eastman coincided with the Metropolitan Opera's production of *Armida,* the three-act Rossini opera known for the difficult coloratura that's the signature of the lead character, an enchanting sorceress who seduces a Crusader who's encamped near Jerusalem. It's a role Fleming first tackled in 1993 at the Rossini Opera Festival in Pesaro, Italy.

"It's the Olympics for singers," Fleming says of the role. "Anything that's bel canto is the hardest, most virtuosic expression of what a singer does."

As for the challenge of moving from the Met to Kodak Hall in almost back-to-back performances, "It'll be easy," she joked a few days before *Armida*'s opening night.

The day after *Armida*'s debut, she was on the stage at Kodak Hall, preparing for rehearsal.

"In case you're wondering why I sound like a bass today," she told the small group of students who had gathered to listen as she ran through the concert with the Philharmonia, "it's because I normally take two days off."

Finding the time to take those precious days off has become something of the holy grail for Fleming. After her Rochester performance, she returned to New York to finish *Armida*'s run. Later this spring, she takes the stage at the Met to headline Strauss's diva showcase, *Capriccio.*

Her 2010–11 season also included performances for the BBC Symphony Orchestra's *Last Night of the Proms* as well as performances with the Pittsburgh, St. Louis, and National symphonies, recitals in St. Paul, Minn., Kansas City, Mo., Ann Arbor, Mich., Montreal, Washington, D.C., New York, San Juan, Berlin, Budapest, and Warsaw.

She also is frequently asked to host television and radio broadcasts, including the Metropolitan Opera's *Live in HD* series for

INTERACTIVE SESSION: Following her rehearsal with the Eastman Philharmonia, Fleming talked with students about her career during a session in Kodak Hall at Eastman Theatre.

movie theaters and television, and *Live From Lincoln Center* on PBS.

"The biggest challenge I face is probably finding balance," says the mother of two teen-aged daughters.

Whether she's found the magic formula of professional and personal balance is a question, too, that's frequently asked of Fleming. Her answer? "Less is more, but I never seem to achieve it."

Fleming hopes to get a different perspective on the opera world in her new role as creative consultant to the Lyric Opera of Chicago. She's the first person to serve in that position in the celebrated company's history.

As part of the five-year appointment, Fleming will play an active leadership role in "creating new projects and initiatives designed to increase opera audiences and awareness of the art form, while sharing in the company's artistic vision," the Lyric Opera noted in making the announcement.

Among her charges are helping to foster a commitment to American music theater, beginning with a new production of Rodgers and Hammerstein's *Oklahoma!* in 2013, and curating a world premiere opera in the 2015–16 season.

"I love the idea that I can learn about some other part of what I do," Fleming says of the Chicago appointment. "Be backstage and get some sense of how the business of music is run and get some sense of what the challenges are.

"I've always been interested in outreach and marketing. And it's going to be terrific to try to be involved in that."

The move adds a new component to her already brimming program as an artist whose performances on stage and in the recording studio and whose commitment as a musical ambassador have come to define the modern notion of opera superstar.

That's a role that may be timeless.

"I don't know what the future is going to bring," Fleming says. "I hope it's a few years off." R

Musical Ambassador

One of the most acclaimed singers of the modern era, Fleming has been internationally celebrated by arts and cultural organizations. Among the honors she has received:

- Sweden's Polar Prize (2008);
- Chevalier de la Légion d'Honneur from the French government (2005);
- Honorary membership in the Royal Academy of Music (2003);
- Three Grammy Awards, including most recently the 2010 Best Classical Vocal Performance Grammy for *Verismo,* a collection of rarely heard Italian arias;
- The 2009 Echo Award for Strauss's *Four Last Songs;*
- The first woman in the 125-year history of the Metropolitan Opera to solo headline an opening night gala.

She's frequently called upon to help commemorate distinguished occasions, including the 2008 Olympic Games in Beijing, the 2009 inauguration of President Barack Obama, and the 2009 anniversary of the Czech Republic's "Velvet Revolution."

BRANDON VICK

Found in Translation

Rochester brings a new focus to clinical and translational science, an approach that promises to bring practical health benefits to patients.

By Kathleen McGarvey

When Arthur Moss '62M (Res), a professor of medicine at Rochester, arrived at Massachusetts General Hospital as an intern in the late 1950s, he found a teacher and mentor who gave him a model for his own life as a cardiologist. Paul Dudley White, the chief of cardiology at Massachusetts General and cardiologist to former president Dwight Eisenhower, founded the American Heart Association. He established Massachusetts General's cardiac unit and through his clinical research, he improved the care of patients with heart disease.

Today, Moss credits White—who was Moss's teaching attending physician through his six-week internship—with showing him how a physician could both care for individual patients and discover new ways of treating disease.

"I wanted to see patients in a clinical setting, and advance the science of cardiology," Moss says of his aspirations for a career that, five decades on, has contributed to saving the lives of countless people.

Moss has done that by collaborating with other cardiologists, geneticists, epidemiologists, biostatisticians, and a host of others; he has involved thousands of patients who have volunteered to take part in his teams' research—all in a quest to better understand heart disease and to develop more effective therapies for cardiac patients.

PAPER TRAIL: Arthur Moss '62M (Res), a professor of medicine, and his clinical research teams have collected data from thousands of cardiology patients in a quest to develop improved therapies for heart disease.

The world's foremost expert on long QT syndrome—a condition that puts patients at risk for sudden cardiac arrest—Moss was one of the researchers who discovered the genes responsible for the disorder. For more than 20 years, he has led a team of cardiologists in reducing potentially fatal cardiac arrhythmias through advances in drug treatment, such as beta blockers, and through devices like implantable cardioverter defibrillators.

One concern unifies his years of research.

"All of our studies have related, in one way or another, to the question,

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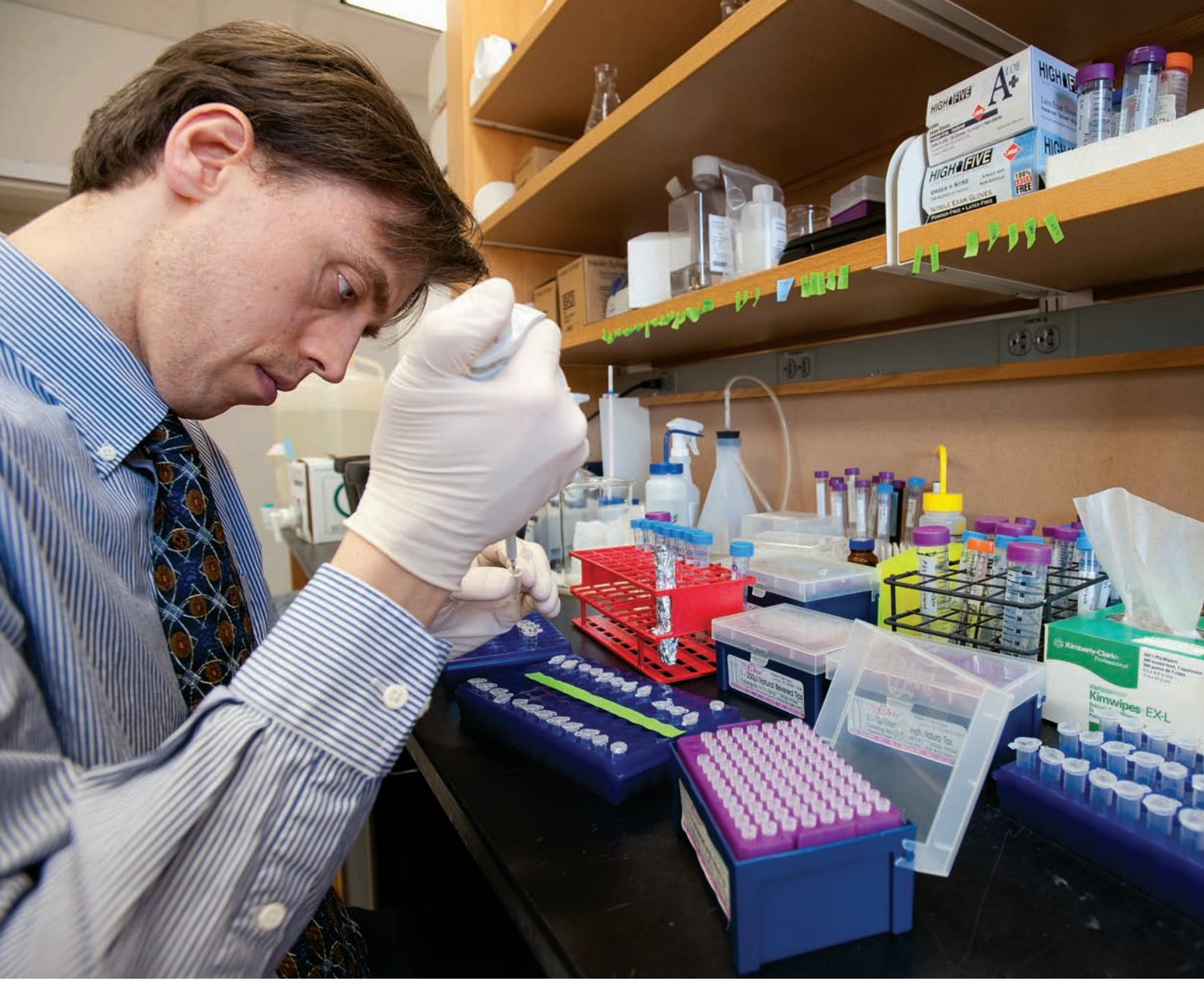

'How can we improve treatment for patients with heart disease?'" Moss says.

The importance of harnessing science for practical solutions to health problems may seem obvious, but in recent decades some policymakers have argued that the nation's biomedical focus has drifted away from research that's directly applicable to patients and human disease. Congress and the National Institutes of Health (NIH) are seeking to change that, and Rochester is helping to lead the way. This spring, Rochester will dedicate the new Clinical and Translational Science Building (see page 28). Built with the help of a $50 million grant from the state of New York, it's one of the first facilities in the country constructed specifically to serve as the academic home for clinical and translational science at an academic health center.

INCREMENTAL PROGRESS: Thurman Wheeler, an assistant professor of neurology, works with colleagues at the lab bench and in clinical research on patients to find a treatment for muscular dystrophy.

It's also the physical manifestation of a renewed emphasis on clinical research at Rochester. In 2006, the School of Medicine and Dentistry was one of 12 top academic health centers to receive a Clinical and Translational Science Award from the NIH. The $40 million dollar grant, the largest NIH award in Rochester's history, is helping the University and its partner institutions to bring together the people, technologies, and infrastructure needed to speed the pace at which advances in biomedical research make tangible improvements in people's lives.

Together, institutions receiving the awards—there are currently about 55—form a national consortium on clinical and translational science. "The development of this consortium represents the first systematic change in our approach to clinical research in 50 years," Elias Zerhouni, then director of the NIH, said when announcing the first awards in 2006. "Working together, these sites will serve as discovery engines that will improve medical care by applying new scientific advances to real world practice. We expect to see new approaches reach underserved populations, local community organizations, and health care providers to ensure that medical advances are reaching people who need them."

Since World War II, the United States has given priority to

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funding basic science, and breakthroughs in molecular and structural biology, neuroscience, genetics, and bioengineering are rich with potential to transform the diagnosis and treatment of diseases. But that potential has been slow to be realized, in part because of the disconnect between basic science—which is concerned with components of organisms, such as cells and genes—and clinical science, which applies those findings to people. The NIH award aims to reduce the time required for lab discoveries to produce patient treatments, to engage communities in the work of clinical research, and to train new generations of clinical and translational researchers.

"This isn't about basic versus clinical research," says Thomas Pearson, the senior associate dean for clinical research at the School of Medicine and Dentistry and principal investigator of the NIH grant. "The point is, the basic science program is a great pitcher; it'd be awfully nice to have an equally great catcher. You need both sides to play baseball."

According to Bradford Berk '81M (MD/PhD), CEO of the Medical Center and senior vice president for health sciences, Rochester has a strong tradition of both basic and clinical science.

"This medical school is steeped in the legacy of founding dean George Whipple, himself an iconic translational scientist," Berk says. "Our new Clinical and Translational Science Building is an integral element of the Medical Center's strategic plan. It will serve as a conduit for rapidly bringing basic science discoveries to everyday patient care."

The new building—a four-story, 200,000-square-foot structure—provides an integrated academic home for clinical research at Rochester. It will bring together all of the disciplines needed to transform creative scientific insights into proven, effective therapies.

Now there will be a critical mass of clinical researchers under one roof: several hundred people who are involved in the enterprise of translational research, from biostatisticians and bioethicists to clinical trial researchers and researchers in specific areas such as cancer, neurology, cardiology, smoking cessation, and obesity prevention and management. The building has an open floor plan to encourage interaction, and also provides substantial space for community involvement. Participation by research volunteers is a key piece of clinical research.

"The building's a structural icon, but what's magic is that it's allowed us to restructure and reorganize from the inside out: research-friendly and research-participant friendly," says Karen Mustian, an assistant professor of radiation oncology who also holds an appointment in the Department of Community and Preventive Medicine. Joining the Medical Center in 2003, she set up a lab to support her own research on the therapeutic benefits of exercise for cancer survivors and those undergoing cancer treatments.

With support from the institute, Mustian's lab has evolved into the Physical Exercise and Activity Kinesiology Clinical Research Core Lab, a resource for other clinical researchers concerned with tracing connections between physical activity and disease mitigation or prevention.

"The inception of this lab as a core facility and the support we've received from the University really exemplifies the fact that this is what the University wants to see increased focus on—providing infrastructure for outstanding clinical science," Mustian says.

THE PLAN FOR A DEDICATED BUILDING DESIGNED SPECIFically to support clinical research strengthened Rochester's application for an award, says Pearson, coauthor of the application.

Rochester's established history also helped. In addition to Whipple, the medical school's founding dean who earned a Nobel Prize in 1934 for his research leading to the use of raw liver as a treatment for pernicious anemia, more recent researchers have contributed such pioneering advances as the use of lung surfactant to help premature infants survive and the development of the HiB vaccine, which has nearly wiped out childhood meningitis. Rochester scientists also contributed to the discovery of a method to prevent many instances of cervical cancer, the HPV vaccine.

A wide-reaching biomedical research consortium—the Upstate New York Translational Research Network—expands the Medical Center's clinical research to encompass a region of about 6 million people. The demographically diverse area includes several understudied groups, such as rural communities, a substantial Native American population, and Rochester's large deaf and hard of hearing community.

Mark Taubman, dean of the School of Medicine and Dentistry, says enhancing clinical and translational science is fundamental to delivering on the Medical Center's promise.

"As an academic medical center, our number one goal is to make discoveries that will improve the health of our population—our region first, but also the world."

One way that making a priority of translational science will benefit people's health is by creating the in-

Extending the Medical Center's Clinical Research

The Upstate New York Translational Research Network, part of the Clinical and Translational Science Institute, aims to increase the quality and quantity of translational research in the region. Participating institutions include:

- University at Buffalo, State University of New York (SUNY)
- Upstate Medical University in Syracuse
- Trudeau Institute
- Masonic Medical Research Laboratory
- Rochester Institute of Technology
- Wadsworth Center, New York State Department of Health
- Roswell Park Cancer Institute
- Rensselaer Polytechnic Institute
- SUNY Binghamton
- Cornell University
- Ordway Research Institute
- Albany Medical College
- Albany School of Pharmacy
- Bassett Healthcare System in Cooperstown, N.Y.
- Guthrie Healthcare System in Sayre, Pa.

frastructure necessary to help turn discoveries made in the lab into clinical applications.

"Basic discoveries that can improve health often hit a roadblock in being translated to clinical use. That roadblock is expense, and academic medical centers didn't have the infrastructure to do that," Taubman says. "The NIH saw we'd have to develop infrastructure to help academic medical centers get discoveries to users, to take them 'from bench to bedside.' "

Research on muscular dystrophy conducted by a team of physician-scientists led by Charles Thornton, a professor of neurology, illustrates the complexity of the process.

"I came to Rochester in 1989 to join a project on finding a treatment for muscular dystrophy. And I've never stopped working on this," Thornton says. He and a team of fellow neurologists have been working to understand how a genetic flaw leads to myotonic dystrophy, the most common form of muscular dystrophy in adults—and they've found a way to treat it in mice. Their work has been necessarily incremental—but it has also advanced on multiple fronts, says Thornton, who both sees patients and works in the lab.

Thornton and his colleagues—Richard Moxley, the Helen Aresty Fine and Irving Fine Professor of Neurology, and Chad Heatwole and Thurman Wheeler, both assistant professors of neurology—have taken a two-pronged approach to their research. One prong has been patient-oriented, with clinical research to answer questions such as how the disease progresses in people, and how the disease's progress and response to treatment can best be measured.

"The other prong is on the bench research side," Thornton says, "to understand how an abnormal gene causes the symptoms of disease, to create animal models that recapitulate the disease process, and to devise targeted treatments to try to reverse symptoms. That's the stage we're up to now. We have things we think are working well in animal studies.

"What we've done simply is to follow the classical paradigm that people were hoping would work, in the sense that we'd take our new understanding of molecular genetics and use it to devise very targeted treatments of diseases that were incurable."

It's a "vertically integrated" approach, says Thornton, with basic science discoveries about the disease, developments of potential treatments, and clinical research on people with myotonic dystrophy all happening simultaneously.

"We've devoted years of effort, and so have hundreds of patients, to the enterprise of knowing in advance—when something's ready to test—how to test it really efficiently," he says.

That level of preparedness is key because the stages involved in bringing a treatment to fruition add up to many years of work. Thornton and his team so far have results they are heartened by. They've achieved good effects in genetically engineered mice, involving the reversal of features of the disease. "If we can translate that into people it has a possibility of transforming the lives of people with the disease."

Knowledge of the impact that their work can have drives team members to work nimbly and prudently, committed not to particular methods or schools of thought but only to a final result.

The research "started with, and has always been driven by, the desire to find a treatment that can really improve the lives of our patients using the fastest, cheapest, most effective path we could find," Thornton says, "with no attachment to one theory ever allowed, always trying to keep ourselves attached to whatever could get us where we wanted to go in the shortest period of time."

Such practicality is central to clinical and translational research, says Taubman, and it's another way in which the enterprise can benefit health care. "There are a lot of things out there on the prevention, diagnostic, and treatments sides that we don't know how good they are," he says. "There's a whole area of research—it's called comparative effectiveness research—that's trying to understand, Are current treatments and diagnostic tools the best? What increases quality and decreases cost?"

They're questions that occupy Nana Bennett, a professor of medicine and director of the Center for Community Health. Focused on prevention, the center aims to make Rochester a healthier place.

"We're really focused on what I call the end stage of translation," says Bennett. "Academic research centers have an obligation to be responsive to public health needs of their communities, and that hasn't been traditionally the case. We need to nurture that."

THE WORLD HEALTH ORGANIZATION RANKS LIFE EXPECTANCY IN THE United States—70 years—at 24th in the world. Less than 2 percent of the country's health care spending goes toward prevention, and scientific advances are slow to make their way into people's daily lives—not just new drugs, but ways chronic disease can be managed, and new insights into how people can take control of their own health.

Clinical trials can determine whether a given device or drug or behavior is effective, Bennett says, but there are more questions to be answered. How can new information best be disseminated to the medical community? How well do measures work when they move beyond the comparatively small groups participating in a clinical trial and into the general population? What are the most effective ways to educate the public?

If discoveries produced by basic science are going to improve the nation's health, she says, researchers have to work with the community. The Healthy Living Research Center that Bennett oversees is an effort to do just that. She calls it a "unique marriage of clinical behavior change services and behavior research."

Bennett cites a 2007 study in the *New England Journal of Medicine* showing that 40 percent of instances of premature death in the United States can be attributed to behavior; social circumstances are at the root of another 15 percent. "If you want to improve health, you need to go after these things."

COMMUNITY TIES: Nana Bennett, the director of the Center for Community Health and a professor of medicine, says health care providers and communities must work together in solving health problems.

The Center for Community Health—which has run focus groups to learn more about demographic groups' feelings about clinical research and participating in it—works with community organizations, individual community members, and medical practices to improve community health and to gather data that feeds further research.

"It's the ultimate test of something's implementability" to see what happens when it reaches patients in their doctors' offices, says Pearson.

The path from the bench to the bedside and back again is one shaped by rousing ambitions and gritty practicalities. They're inextricable, Moss suggests.

"What we've tried to transmit to our cardiology fellows is that with their specialized knowledge, they have a responsibility for applying that knowledge to patients—but also a responsibility to advance the fund of knowledge." R

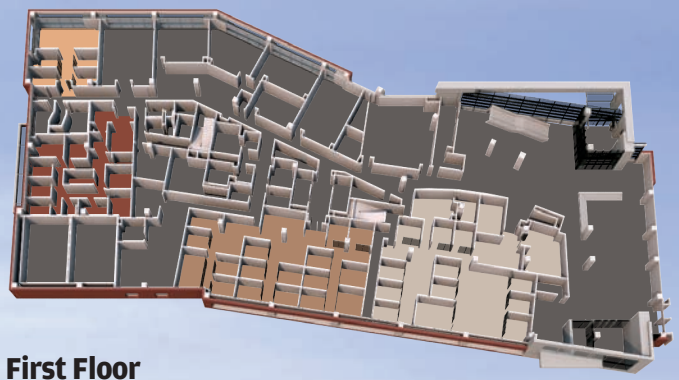
ADAM FENSTER

Under One Roof

Rochester researchers in the new Clinical and Translational Science Building aim to accelerate the clinical applications of biomedical research.

The new 200,000-square-foot Clinical and Translational Science Building brings together scientists, physicians, nurses, researchers, and other staff who were formerly scattered across the University. Scheduled for dedication in April, the new building will be home to the Clinical and Translational Science Institute, which in 2006 received one of the nation's first NIH grants designed to help accelerate the application of the discoveries of medical science. The new facility shares an atrium with the adjacent School of Nursing, symbolizing the close connection between clinical research and the School of Medicine and Dentistry and the School of Nursing.

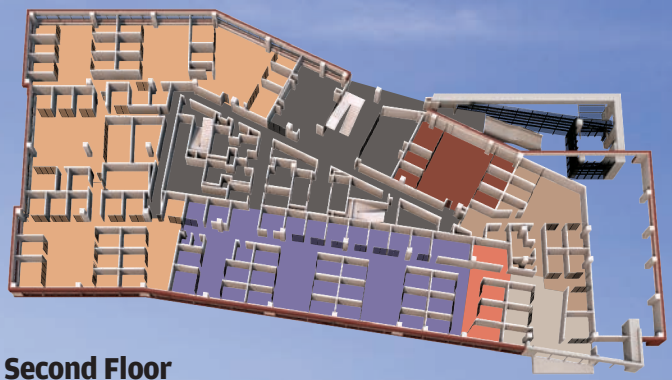
—Kathleen McGarvey



First Floor

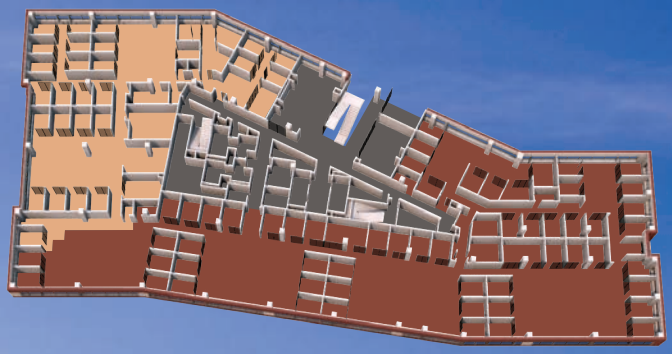
- **Bioinformatics Program** Assists with the design and management of databases used in clinical and translational research and the education of professionals in their use.
- **CTSI Program Offices** Operates programs and provides services to support and train clinical and translational investigators.
- **Office for Human Research Protection/Research Subjects Review Board** Responsible for ensuring that the rights and welfare of participants in medical research are adequately protected.
- **Clinical Research Suite** Provides dedicated space for health researchers to conduct safe, controlled, outpatient studies of children and adults.

GREEN DESIGN: The new facility is designed as the University's first building to be certified according to the Leadership in Energy and Environmental Design (LEED) guidelines.



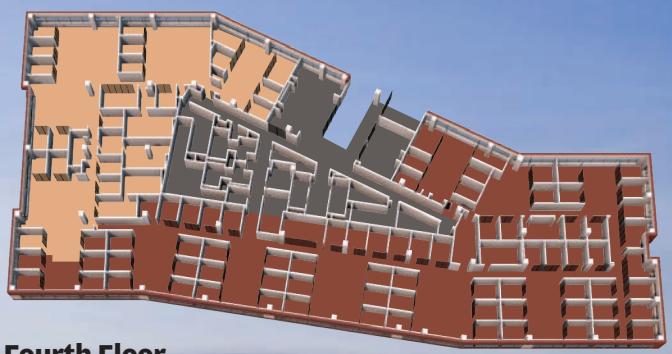
Second Floor

- **Center for Human Experimental Therapeutics** Conducts hypothesis-driven initial investigations of new therapies for human diseases.
- **Muscle Study Group** Carries out controlled clinical trials and other research for muscle and neuromuscular diseases.
- **Emergency Medicine** Studies emergency care issues, with a primary emphasis on traumatic brain injury, geriatric emergency care, and prehospital medicine.
- **Seychelles Child Development Study** Studies the risks and benefits of fish consumption on childhood development.
- **Cancer Survival** Aims to enhance quality of life for cancer survivors through efforts to improve treatments and minimize lasting effects of radiation therapy, chemotherapy, and surgery.
- **Cancer Control** Leads hundreds of researchers in 22 affiliated sites nationwide in developing ways to minimize or eliminate side effects of cancer treatment.



Third Floor

- **Pediatrics** The Division of General Pediatrics conducts health services research with a focus on vulnerable children.
- **Community and Preventive Medicine** Promotes and supports public health through research and outreach.

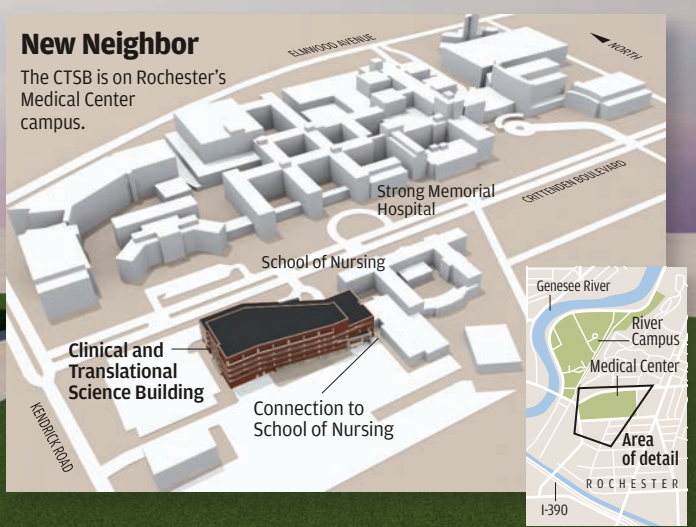


Fourth Floor

- **Heart Research Follow-Up Program** Organizes and conducts cardiovascular research studies to improve diagnosis and management of patients with heart disease.
- **Biostatistics** Conducts collaborative and methodologic research and provides education and assistance in study design and analysis and computational biology.

New Neighbor

The CTSB is on Rochester's Medical Center campus.



GRAPHIC BY STEVE BOERNER FOR *ROCHESTER REVIEW*

Funding the Future

As trustee Rich Handler '83 and his wife, Martha, increase to $25 million the largest contribution to student scholarships in the University's history, meet a few of the students whose lives have been transformed by the Alan and Jane Handler Scholarship Fund.

Photographs by Adam Fenster

For Amy Roth '11, being selected as one of the first recipients of a scholarship supported by the Alan and Jane Handler Scholarship Fund has meant more than simply paying for her education.

"The Alan and Jane Handler Scholarship has enabled me to focus on what most interests me," says Roth, a psychology major who plans to attend nursing school and to pursue a career in mental health services. "I have had the freedom to find what I'm passionate about."

University trustee Rich Handler '83 and his wife, Martha, hope to ensure that deserving students continue to find that freedom at Rochester, thanks to their commitment of $20 million this winter. Their additional support raises to $25 million the scholarship fund they established in 2007.

The fund, named in recognition of Rich Handler's parents, Alan and Jane Handler, is the largest contribution to student scholarships in the University's history.

Since 2007, a total of 10 students in the College and the Eastman School have benefited from the scholarship, which covers all University expenses, including tuition and fees, room, board, and books. Handler Scholars receive awards annually throughout their undergraduate years, as long as they demonstrate adequate academic performance.

Recipients are selected on the basis of outstanding scholarly potential, financial need because of underprivileged backgrounds, and potential to be future leaders.

"These young men and women just need a little help before they set out to make the world a better place," Rich Handler noted in announcing the new commitment. "Martha and I increased our scholarship program to $25 million because we were so pleased that the University did such an excellent job of selecting amazing students, who through no fault of their own are truly in need."

Shay Behrens '14

Harlan, Iowa

"I grew up in such a small town that I could go to the closest city and still see people I know," says Shay Behrens '14 of her childhood and adolescence in an agricultural community in southwest Iowa.

Behrens, who graduated second in her high school class with a grade point average of over 4.0, says that although most of her classmates went on to college, she was one of only two who went out of state, and one of a very few who chose a school with more than a thousand students. "They go to schools with maybe a thousand kids—the smaller colleges," says Behrens of the typical graduates of her area high school.

Her decision to travel so far is all the more remarkable because Behrens—whose mother, a waitress, raised her alone—is the first person in her family to attend college.

She says her first semester at Rochester was "a hard transition." But, she adds, "You have to get out of your comfort zone in order to learn things in life." She first learned of Rochester during her junior year of high school, when her chemistry teacher nominated her for the Bausch & Lomb Honorary Science Award. The award recognizes high school juniors with outstanding achievement in the sciences and exemplary math scores on their PSAT exams. As a winner of the award, Behrens was permitted to apply to Rochester for free and, if admitted, to qualify for merit scholarships.

Among the factors that drew her to Rochester was her interest in the health sciences. A distinguished athlete and team leader in multiple sports in high school, Behrens says she's interested in working with athletes professionally. She has yet to decide whether that means being a physician, an athletic trainer, or a physical therapist.

She says she was tempted to enroll in a university that, unlike Rochester, offered preprofessional majors in physiology and kinesiology. But although her road from college to a career may be less direct at Rochester, it's one that offers her a variety of options and a chance to explore. She's discovered two new interests—psychology and philosophy—and plans a minor in Spanish. In addition, she's part of the community service club UR Rotaract, the Charles Drew Pre-Health Society, and the Minority Association of Premedical Students, or MAPS.

Still, she misses sports. "This next semester, I'm going to play intramural basketball, because I'm absolutely dying without basketball," she says, adding, "I might try volleyball and squash, because I don't even know what squash is. So it seems interesting."

—Karen McCally

Michael Fuller ’13E

Philadelphia

If you traveled through the concourse of Suburban Station in Philadelphia’s Center City a few years ago, you may have seen and heard a young ensemble that went by the name MANA Quartet. The classical musicians weren’t the usual buskers—they were all still in high school—or the usual classical quartet, for that matter. In place of the typical cellist was Michael Fuller ’13E, a bass player who first picked up the instrument in middle school.

“Ever since elementary school, music has been part of my life,” Fuller says.

For the past year and a half Fuller has been honing his musical skills at the Eastman School as a Handler Scholar. In addition to his full load of courses, he tries to find the three to four hours a day—“that’s ideal”—to rehearse, both on his own and with the school’s ensembles. He’s performed with the Eastman School Symphony Orchestra and the Eastman Philharmonia, an opportunity usually reserved for upperclassmen.

The youngest of five who grew up in Philadelphia, Fuller says he’s not sure where his interest in music came from, but he’s never been very far from it. His mother played cello and violin as a young woman, but he’s the only member of his family to try to make a career of music. He began with the trombone in elementary school before switching to the bass.

He’s the first in his family to go to college, an achievement that, he says, “means a lot to my mom.” But he says she’s been careful to make sure he knows he’s under no pressure when it comes to higher education.

At the Eastman School, Fuller is studying closely with James VanDemark, a professor of double bass and cochair of Eastman’s strings, harp, and guitar department. “He’s an amazing teacher,” says Fuller of VanDemark. “He’s definitely done great things for my music.”

And where does he want to go with his music? For now, he hopes to be able to find opportunities to perform at venues in the United States and abroad. He’s finding that music can take him places far beyond Suburban Station.

“Music got me out of Philadelphia,” he says. “I knew I had to do something with it.”

—Scott Hauser

Jonathan Peralta ’13

New York, N.Y.

At Manhattan’s Fiorello LaGuardia High School of Music & Art and Performing Arts—known as LaGuardia Arts—Jonathan Peralta ’13 followed an academic program that included advanced placement courses in biology, chemistry, and calculus, in addition to an intensive program in classical voice and opera. As both a serious musician and an aspiring scientist, he calls Rochester “a natural choice.”

If his circumstances were different, Peralta, who continues voice lessons at the Eastman School, admits he may have been tempted to pursue a career in music. “I honestly sing all the time. I can’t help it. I hum to myself. I sing to myself. It’s pretty constant,” he says.

But he says he can’t take that risk.

“I really have to guarantee that when I leave college, I’m going to be able to take care of myself. It’s not like, ‘Oh I’m going to go and live at home for a while,’” he explains. “There is, to be very frank, no home for me to go back to.”

Peralta’s father left the family before he and his twin sister were born. Their mother suffered from drug and alcohol addiction throughout their childhood, and the two children underwent multiple changes in custody. “We had moved maybe six or seven times,” he recalls. They went to a different school for each of their three years of middle school. Both their mother, and the grandmother who had done much to raise them, died when Peralta and his sister were in high school.

Fortunately, Peralta says, he had a stable support system at LaGuardia Arts. “I can’t express how much LaGuardia really shaped me and really helped me prosper,” he says. “It was the perfect environment for me, and I really made some connections to both faculty and students that I know I will keep forever.”

Now in his fourth semester at Rochester, Peralta says he’s found a home on campus as well. “After really investing some time here, I finally do feel very well connected. I really do have a strong support system here.”

Like many sophomores, he’s planning to pursue a different major from the one he initially intended. Once set on biology, he found himself more captivated by computer science. “I said, ‘Let me take the intro course,’ and I did, and it’s something I did well in,” he says of the make-or-break Computer Science 171 that’s the first step in determining who will make it through one of Rochester’s more challenging majors.

He says he’s sometimes surprised by how far he’s been able to come. He notes that his sister has similarly thrived. She’s a sophomore, also on a full scholarship, at Lafayette College in Pennsylvania.

Peralta knows his story is inspiring. And, he says, “I’m inspired by my own story! It’s crazy to think, and it’s surreal to me still.”

“I feel like the little train that could—and will. And chug-a-chug-a-choo-choo,” he adds decisively. “I’m ready to go.”

—Karen McCally

Aaron Roth ’11

Savannah, Tenn.

Aaron Roth ’11 was 10 years old when his family moved from Dallas to rural Tennessee, in a setting so isolated that they lived with no electricity or running water.

“My father really liked the rustic lifestyle,” he says. “We lived in that setting for about six months, and then we moved a little closer to the nearby town and had more modern conveniences.”

Homeschooled for most of his youth, Roth was 15 years old before he entered a classroom full of students. Having been surrounded by books and possessing a healthy appetite for reading, he was excited for the new opportunity, which he shared with his older sister, Amy, then 16.

But they found that they were significantly behind the other students in math and science. Those subjects, Roth says, are “a hard thing for homeschooling parents to take care of because there are a lot of resources you need.”

He caught up fast. Roth is nearing completion of a major in brain and cognitive sciences.

His parents, he says, were initially surprised that he was even considering college. “I told them I was going to go to college, but I don’t know if they fully expected it until I got in and said, ‘I’m going, and I’ve got a scholarship.’” As it turned out, both Aaron and Amy would arrive at Rochester in the fall of 2007 as Handler Scholars.

Roth says he’s enjoyed being able to sample a variety of subjects—he’s taken courses in history, philosophy, math, and music—but brain and cognitive sciences is the area that captivated him. Last summer, Roth worked in a robotics lab at the École Polytechnique Fédérale de Lausanne in Switzerland. He’s animated as he talks about his interest in the future of brain and machine interfacing, and the possibilities of such research.

“There’s already research being done with neural implants and using your thoughts to control computers,” he explains, citing cases in which electrodes placed on the motor cortexes of the brains of paraplegics can allow them to control cursors with their thoughts, opening e-mails, for example, and browsing the web.

Although Roth is a senior, it won’t be his last year at Rochester. He’s been admitted into the Kauffman Entrepreneurial Year, or KEY, program, which provides a tuition-free fifth year for students to pursue a project of their own design and take courses to support their entrepreneurial interests.

“I wanted to take some more computer science courses, and I was interested in web design,” he says. He and a classmate are designing and implementing what Roth calls a “buy-sell website,” just for the campus community, to help students buy, sell, or exchange used items without having to post flyers on already-crowded bulletin boards around campus. Meanwhile, he’s taking courses in computer science and business to support the project.

“We’re not sure yet when we’re going to launch it,” he says of the site. “Maybe this semester.”

—Karen McCally

Amy Roth ’11

Savannah, Tenn.

“I’m fascinated by the way people think, and what influences factor into that,” says Amy Roth ’11.

That fascination fueled her decision to become a psychology major. She came to Rochester planning to pursue psychiatry but felt bolstered by the freedom the curriculum offered her to explore her options.

Roth found out she had received a Handler Scholarship when she was attending freshman orientation.

“It definitely eased my financial issues,” she says.

Until grade 10, Roth was homeschooled with her brother Aaron ’11 in Savannah, Tenn. They decided to attend a public high school to ready themselves for college. The second and third eldest of five children, Amy began high school at age 16; Aaron at 15.

“As awesome as parents might be, there’s no way they can be as skilled in every subject as someone who’s trained in it,” she says.

Their ambitions were realized when the siblings both enrolled at Rochester—and both received Handler Scholarships.

“It felt like I’d been given a new lease on life,” Roth says of her arrival at Rochester. “I could design what I wanted to do.”

“I’ve been given room to come into my own here,” she says. She’s been busy in the classroom and out, dancing with the Afro-Expressions performing arts group and serving as its business manager, as well as joining the Psychology Undergraduate Council.

In spring 2010, Roth studied in Vienna for a semester; in the summer, she took part in an internship in London at the Collingham Gardens Children and Family Unit, a psychiatric hospital for preteens. The experience had a profound impact on her own professional plans.

“I helped the nursing staff, and I saw how much hands-on patient experience you get as a nurse,” she says. “I don’t want to be in and out of patients’ lives. I want to create a more holistic health environment.” Roth hopes to begin nursing school in the fall.

Roth is thankful for the help she’s received in preparing herself for a life of helping others. “I can’t tell you how much of a relief the scholarship has been. And one thing Rich has stressed is the importance of giving back, or paying it forward.

“I’m so grateful for the help I’ve received, and the generosity.”

—Kathleen McGarvey

Alejandro López-Samamé '12E

Lima, Peru

When Alejandro López-Samamé '12E first took up the trumpet at age seven, he found a kindred spirit of sorts.

"I've been trying all my life to be a leader in everything I do. That's what the trumpet does in an orchestra—it leads other instruments in certain dynamics due to its tone."

López-Samamé—the only musician in his family—may have taken naturally to his instrument, but his path to music school wasn't so clear.

He was born and raised in Lima, Peru. "It's a hard place to come from, when you're talking about music," he says, because there's not a lot of support available for musical study or classical music instruction.

López-Samamé admired the work of James Thompson, a professor of trumpet at the Eastman School, and, eager to make his acquaintance, found his Skype address and made contact. Thompson was quickly impressed by the promise of the budding, largely self-taught performer, identifying him as an "amazing player who needs to be at Eastman."

But it wouldn't have been possible without the Handler Scholarship, says López-Samamé, now a trumpet performance major at Eastman.

In 2009, López-Samamé returned home for the summer as first trumpeter with the National Opera of Peru. Last summer, he took part in three important music festivals, including the Schleswig-Holstein Festival in Germany, which included a tour of 25 countries.

"Eastman has opened so many doors for me," he says.

And while he's always aspired to stand out as his instrument does, he says that the Handler Scholarship has helped to give him the necessary quality to achieve that: "Confidence."

—Kathleen McGarvey