



e-Mosaics



College of Arts and Science

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From the Editor

Welcome to the inaugural electronic issue of Mosaics, which replaces the magazine that has appeared in your mailbox for years. As its predecessor did, e-Mosaics offers news of A&S students and faculty, with one important addition — interactive participation.

Through the convenience of the Internet, we invite you to send comments on this issue and what you would like to see in future issues.

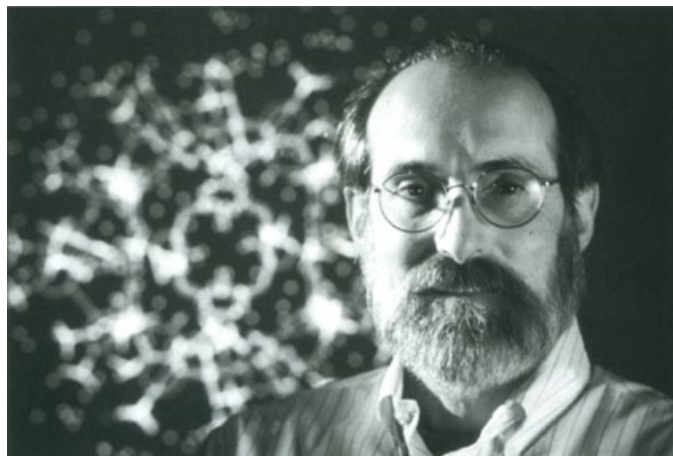
—Nancy Moen

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World-class Work in Chemistry Merits Unusual Tribute

Jerry Atwood



By Nancy Moen

Dedicating a journal to a distinguished colleague is one of the highest tributes in the scientific world. Journals are dedicated occasionally to respected scientists who have died, but the use of such honors to mark a birthday or other occasion almost never happens.

So when the May 2008 issue of *New Journal of Chemistry* was published as a dedication to Curators Professor Jerry Atwood to celebrate his 65th birthday, he felt appropriately honored: "I've had so many students

who went on into academia and have done well; they're the ones who organized this." Nine of his former students (with his son, David, a chemistry professor at the University of Kentucky) contributed articles to the issue, including the cover and inside-cover pieces.

New Journal of Chemistry Cover

The 2008 dedicated journal is the third such tribute for Atwood, who was similarly honored on his 60th birthday by the *Journal of Organometallic Chemistry* and the *Journal of Supramolecular Chemistry*.

NJC Associate Editor Jonathan W. Steed, a former Atwood student, explained in the journal's introductory article why Atwood's distinguished career merits this unusual show of respect. Steed says it's a clear demonstration by Atwood's peers, colleagues, former co-workers and friends of "the significance of his ongoing contribution to science and to scientific publishing."

Atwood, who is chair of MU's Department of Chemistry, leads a research team in

supramolecular chemistry, which might be explained in lay terms as chemistry beyond the molecule. Another former student of Atwood compares it to playing Legos with pretty, colored molecules.

Atwood has written more than 640 publications on what he calls hard-core science, and those publications have been cited 23,000 times, a "staggering" achievement, Steed says.

Some firm evidence supports that assessment. Scientists use a formula developed by physicist Jorge Hirsch to measure their standing worldwide. The h-index ranks researchers based on their total number of published articles and the number of times those articles are cited in other people's publications. The result evaluates scientific productivity as well as impact.

In the Aug. 18, 2005 issue of the journal *Nature*, Hirsch suggested that for a scientist with 20 years of research, an h value of 20 is a sign of success and one of 40 indicates an outstanding scientist likely to be found only at a major research laboratory.

Atwood's h value is an astonishing 78.

Knowledge to Share

Journals have been a major part of Atwood's professional life for more than a quarter of a century. He founded three journals himself — *Supramolecular Chemistry*, the *Journal of Inclusion Phenomena* and the *Journal of Supramolecular Chemistry* — and has held editorial positions with at least 10 different publications, often three or four at a time.

In another indication of the significance of his research, Atwood possesses an enviable collection of magazine covers that feature his work. Various journals have used his break-through research as their cover stories a remarkable 10 times since 1999. Five of those appeared in 2007 issues alone.

"I've never heard of anyone being so fortunate to have five covers in one year. That seems unbelievable," Atwood says. "To get a cover the chemistry has to be highly rated and the art has to be there. We worked for three weeks on the *Science* cover."

To the untrained eye, Atwood's journal covers resemble art, but, in fact, they represent scientific advancements in several areas of supramolecular chemistry and nanochemistry. He has written, edited and co-written an enormous range of seminal works in supramolecular chemistry, Steed says.

Since 1997, Atwood's scientific articles have been highlighted 14 times in *Chemical & Engineering News*, the weekly news magazine of the American Chemical Society with a subscription base of 700,000 worldwide. That includes four of Atwood's articles selected for the "Best of the Year" feature.

Atwood is credited with the discovery of liquid clathrates in 1969; discovery of spherical molecular assemblies held together by hydrogen bonds in 1997, leading to the design of nano-scale molecular assemblies using geometrical principles of Plato and Archimedes; and discovery of nano-porosity of seemingly non-porous organic solids in

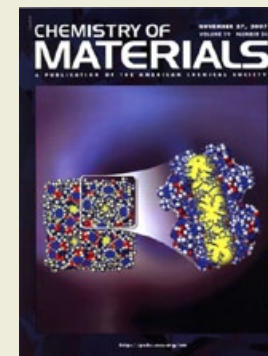
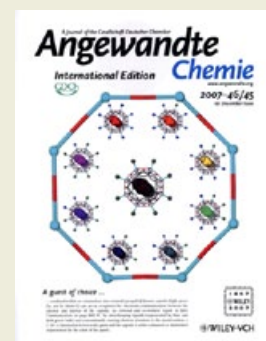
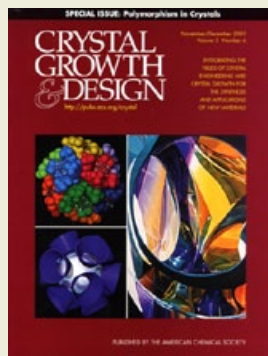
2002, leading in 2004 to new concepts in gas separation and storage.

Atwood's recent research focuses on the areas of gas sorption and separation, guest-host molecule binding, self-assembly of giant non-covalent capsules and control of encapsulated space. The applied results have the potential to develop new methods of gas storage and new delivery methods for drugs that will treat only diseased parts of the body.

"We have several patents on the capsules and gas sorption," Atwood says. He is seeking individuals or companies interested in doing the licensing.

Students Remain the Driving Force

Atwood's pride and job satisfaction center on the students who have come through his research group. When he moved to MU from the University of Alabama in 1994, Atwood arrived with a huge amount of talent: three



post-doctoral students and three graduate students who showed great promise.

"There are so many people from our little group here that have reached prominence in chemistry," he says.

Of the post-doctoral students, Len Barber is arguably the top-rated chemist in South Africa; Peter Junk heads the chemistry department at Monash University in Australia; and Steed, associate editor of *NJC*, teaches and researches at the University of Durham in the United Kingdom.

Scarcely a week goes by that Atwood doesn't write an award recommendation for one of his former students. He stays in close contact with almost all of them.

"An Indian friend told me that after 20 years you don't ask a professor what he's doing, you ask a professor what his students are doing," Atwood says. "Because knowledge is a growing thing, it survives beyond individual careers."

Steed acknowledges the mentoring and the continuation of knowledge that occurs in the relationship of a professor and student: "Jerry's career and attitude to life, both in science and in general, have been a tremendous inspiration to me and to many others like me."

Museum Acquires Warhol Photos

The Andy Warhol Foundation for the Visual Arts has selected the Museum of Art and Archaeology to receive more than 150 original photographs by the iconic pop artist. A public exhibition of the works will be announced.

"It's hard to overstate Warhol's impact on American art, especially on how art was perceived in popular culture," says Museum Director Alex Barker.

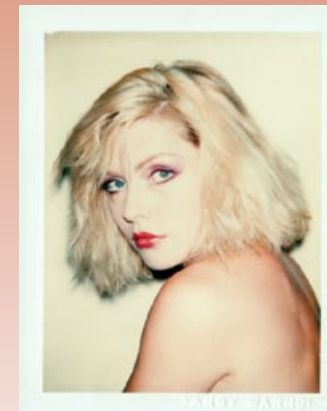
"We're enormously gratified by our selection. It's an acknowledgement of both the excellence of this museum and of the importance of the museum's role in the campus, the community and the arts in mid-Missouri."

The 152 photographs, both Polaroid and silver gelatin prints, include images of pop icons such as Debbie Harry of Blondie; Ric Ocasek of The Cars; artists Paul Delvaux, Peter Schuyff and Christopher Makos; Warhol's partner, Jon Gould; and Warhol's secretary, Pat Hackett, editor of *The Andy Warhol Diaries*.

The images will reveal information about the process Warhol used and his interactions with the subjects of the photos, says Jenny Moore, curator of the foundation's Photographic Legacy Program. They will also serve as valuable material for scholarly research.

"Often Warhol would shoot a person or event with both cameras, cropping one in Polaroid color as a 'photograph' and snapping the other in black and white as a 'picture.' By presenting both kinds of images side by side, the Photographic Legacy Program allows viewers to move back and forth between moments of Warhol's art, work and life — inseparable parts of a fascinating whole," Moore says.

Two other museums in Missouri, both in St. Louis, also received gifts of art from the foundation.



Above, Debbie Harry, and, right, Mother and Child, two of the images in the collection.

Harry S. Truman Bucks Stop Here

By Nancy Moen

Jennifer Kimball



Melody Galen

Innovative leaders. Problem-solvers. Motivators. Now add Truman Scholars to the list of achievements for A&S juniors Jennifer Kimball of Columbia and Laura Merritt of McKinney, Texas.

The highly selective Truman Scholarships identify recipients as future “change-agents” based on their leadership, academic ability and likelihood of making a difference.

Sixty-five students, selected from hundreds of applicants from colleges and universities across the nation, learned in March that they had received awards of \$30,000 for graduate study. MU is one of a few universities to have more than one student chosen for 2008.

Kimball developed an early academic interest in women’s history as a home-school student. At MU, that interest expanded into a major in women’s and gender studies as well as service activities in a variety of women’s issues. She is president and co-founder of Stop Traffic, an organization opposing human trafficking. With vice president Paige Hendrix, she organized a two-day anti-trafficking conference on campus this spring.

Kimball is president of Students as Neighbors, a group that helped Hurricane Katrina evacuees integrate into the Columbia community or return to their home area.

“It’s interesting how hurricanes or economic upheavals can manifest as violence against women,” she says. “Women are the first to lose their jobs or may not have had steady employment, so they are more vulnerable.”

Merritt is the founder of I Am, a campaign that promotes public education, voter participation and government support of stem cell research. “I didn’t think proponents were

presenting information to voters adequately; people couldn’t understand the science mumbo jumbo,” she says. “I can process the science and put it in language that’s truthful and digestible to the average voter.”

Merritt’s other service interests are the Mizzou Alumni Association Student Board and MU’s Griffiths Leadership Society for Women. “I have loved being connected to the alumni of this University,” she says. “It has shaped my experience here to be connected with the past.”

Kimberley Merritt

Although she appears to be an image of health, Merritt has spent years fighting the pain of rheumatoid arthritis. The condition resulted in numerous hospitalizations, hours of IVs and a multitude of shots. Through those experiences, she gained a perspective of patients’ needs and is pursuing a patent for hospital apparel that will increase their comfort.

Applying for a Truman Scholarship is an intense, time-consuming project. The MU students started their applications in early fall and spent months revising before they began mock interviews with professors and other professionals.



Melody Galen

“The panel interviews here were more challenging than the real one. They were excellent preparation,” Kimball says.

Applicants soon discover that preparation can demand nearly as much time as a three-credit course. “It’s worth it. The process makes you research your life and your future,” says Merritt, who’s seeking a degree in interdisciplinary studies with emphases in health sciences and political science.

Truman Scholars must be committed to careers in government, the not-for-profit sector, education or other areas of public service. Kimball hopes to work for a women’s advocacy association at the state level. Merritt wants a career in health advocacy, possibly a mediating role between the science and law communities.

Congress established the Truman scholarship program in 1975 as a federal memorial to the 33rd president. Independent selection panels of the Harry S. Truman Scholarship Foundation choose the honorees.

Major Gift in Economics Will Help Attract Star Faculty

Economics student Samantha Dalton loved going to her micro- and macroeconomics class because the professor brought the subject to life with each interesting lecture.

That is precisely what alumnus Sam Cook wants all students of economics to experience again and again — lectures they will remember and information they will use for a lifetime. Through a gift of \$2.55 million, Cook funded a chair in the Department of Economics that allows the department to hire a star faculty member.

Cook's philanthropy guarantees that students such as Dalton have the opportunity to learn macroeconomics from one of the nation's top economists. Part of the far-reaching gift, \$50,000, will establish a library endowment to support the chair's research.

"Sam wanted his gift to affect as wide a range of students as possible because he believes that well-educated graduates need to understand the value of a free-market society," says A&S Dean Michael O'Brien. "The professor appointed as the Cook chair will be a stellar teacher with high-quality research and will teach basic economics courses."

A prominent Missouri banker, Cook is chairman of Central Bancompany in Jeffer-

son City. "It's nice to have someone of Sam's stature as a spokesman for economics education in the state of Missouri. He knows how it helped him," O'Brien says.

David Mandy, chair of the Department of Economics, says the department is honored by Cook's deep commitment to quality education and expression of confidence in the department. "We share Mr. Cook's vision that a solid understanding of macroeconomics is an essential component in development of Missouri's future leaders and are eager to provide this with Mr. Cook's support."

MU Chancellor Brady Deaton, also an economist, says the gift will provide students with a better understanding of issues such as economic growth, business fluctuations, monetary and fiscal policy, taxation and other government policies that affect economic performance in free-market economies.

Cook attended Mizzou before leaving to serve in World War II. After the war, Cook

graduated magna cum laude and Phi Beta Kappa from Yale University with special honors in economics. He has expressed a belief that economics is part of a well-rounded education and that the ability of students to apply those theories ultimately benefits the state of Missouri.

In addition to his philanthropy, Cook has shown his support for higher education through personal involvement. He served as a University of Missouri Curator from 1987 to 1993; is a former member of the Governor's Task Force on Higher Education; and was a trustee at several Missouri universities.

While in the U.S. Army, he received a Meritorious Service Award, attained the rank of captain in the field artillery and was aide de camp to the commanding general of the XXXVI Corps Artillery in France, Belgium and Germany.

Soprano Sings ^{Above} the Rest

By Nancy Moen

Aspiring classical singer Emily Bennett chose MU's School of Music after she was rejected for live auditions by some of the nation's largest music programs. Fast forward to her senior year: Bennett competed for a coveted national vocal championship against students from those same schools that had rejected her.

The comic opera *Too Many Sopranos* popped into Bennett's mind when she learned who her competitors would be at the finals of the Young Artist Voice competition — five sopranos and a baritone.

"There's an abundance of us," says lyric soprano Bennett, which makes the male voice especially attractive. And when that baritone sang his superb, mature program in the finals of arguably the nation's most prestigious collegiate vocal competition, she said to herself: "He just won."

By tradition, the contest judges call all seven finalists to the stage with their teachers for announcement of the winners, from third place to first. As the crowd applauded the baritone, who had won second place, Associate Professor Ann Harrell knew that MU's

soprano had taken the top spot, including a \$3,000 cash prize.

Just making the national competition, which is directed by the Music Teachers National Association, becomes a grueling test of talent and training. Bennett worked for months to memorize a program of nine arias and art songs in four languages. She earned entry to the March 31 finals in Denver by winning the first two stages — the Missouri state competition and a multistate regional contest.

Stomach butterflies and elevated blood pressure affect a student's psyche during such important competitions. "Nationals are intimidating," Bennett says.

To become acquainted with the other finalists, she searched online for information about them, and that's when she discovered some of the singers represented schools that had passed her by for an admission audition.

"Now I was competing against their best students," she says.

In Denver the day of the competition, three judges sat just a few feet in front of Ben-



Emily Bennett, BA '08.

nett when she began her performance. For 30 minutes she sang in Italian, French, German and English while trying not to look at

them. A French aria by Jules Massenet would present her biggest challenge. The piece, *Obéïssons quand leur voix appelle*, contains a sustained high "D" that tests a singer's stamina even when her nerves aren't tuned as tight as a piano string.

Bennett becomes an actress when she sings. Her large green eyes evoke emotion as she uses facial expressions and hand gestures to convey a mood and create a character. But ultimately, it's the sound that matters. What makes Bennett's voice so beautiful is its balance between bright and dark. Harrell describes the sound as ringing with warmth and beauty from top notes to bottom notes.

Musicians sometimes transcend themselves in a performance, and that's what Ben-



Emily Bennett performing at Carnegie Hall.

nett and her pianist, Rachel AuBuchon, MM '06, accomplished at nationals. "Their performance was remarkable," Harrell says. "Emily was on. She just sang beautifully, and Rachel did things at the keyboard that I've not heard her do before."

Bennett is the third MU student since 2000 to win the Young Artist voice competition. In addition to Bennett, Harrell coached tenor Neal Boyd, who won in 2000. Associate Professor Jo Ella Todd coached the 2002 winner, baritone Kory Bickel.

"We do well here in the middle of the country," Harrell says. "We have really talented students who come to Missouri and work

hard. I think the faculty are very caring, nurturing teachers, so there's an atmosphere conducive to learning and improvement."

Training a classical singer is a careful, gradual process that requires dedication from both student and teacher. Harrell remembers hearing Bennett's scholarship audition for MU and recognizing that she was exceptionally gifted with a pretty voice.

A nice voice, however, is just the beginning. Harrell suggests that her students work with her for five years to reach vocal maturity. At first, Bennett resisted the fifth year; she wanted to graduate in four years to get on with her life. Eventually she relented: "Ms. Harrell was right, as she always is. Obviously, it was a good idea."

Bennett graduated in May 2008. She is pursuing an advanced degree at Florida State University.

Honors Are Golden for These Scholars

Junior Kevin Karsch has set himself the goal of winning another prestigious award, a National Science Foundation Fellowship

By Melody Galen

Two Arts and Science juniors, Tyler Faust and Kevin Karsch, received 2008 Barry Goldwater Scholarships. As recipients of the prestigious awards, they are eligible for up to \$7,500 to cover tuition, fees, books and room and board.

"It's a great award because it represents Missouri at the national level," Karsch says. "I think we had as many Goldwater Scholars as Harvard and some of the other Ivies. That's a pretty big accomplishment for our school."

Karsch graduated from Mehlville Senior High in St. Louis and is dual majoring in computer science and mathematics. He hopes that winning the Goldwater honor will help propel him into a National Science Foundation Fellowship later.

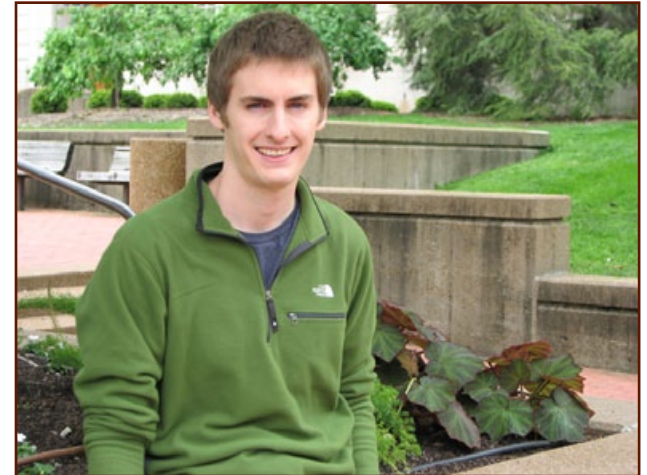
Karsch and his mentor, Assistant Professor Ye Duan, are partnering with the new Brain Imaging Center and the medical school to discover which region of the brain will indicate whether a child has autism or PKU (phenylketonuria). Karsch also values his lunchtime conversations with friend and philosophy Professor Donald Sievert: "He's just a great guy all around. He has great stories."

Faust, who graduated from St. Louis High School, is a biological sciences major. He hopes to go on to do research and teach, perhaps in cell biology or microbiology, at the university level after he earns his doctorate. Winning this scholarship makes him believe he can apply to more competitive programs. "It gives me more potential in terms of getting into a graduate school and a profession I want," Faust says.

Junior Tyler Faust plays guitar and soccer for his own enjoyment, but his career goals are in academia.

Faust appreciates the relaxed atmosphere he's found while working with Assistant Professor David Schulz. "He talks to me about things I should do, things I shouldn't, things to watch out for. He's a mentor," Faust says.

Faust and Karsch already had a wide array of opportunities open to them, and both feel that winning the Goldwater Scholarships has offered more choice.



Junior Tyler Faust, top, and Kevin Karsch are recipients of 2008 Barry Goldwater Scholarships.

Conducting the Future of Music at Mizzou

Robert Shay, new Director of the School of Music

By Nancy Moen

Robert Shay, former chief academic officer of Longy School of Music in Cambridge, Mass., became director of



Director of the School of the Music,
Robert Shay.

MU's School of Music July 1. Shay stepped into the top leadership position held by Melvin Platt for the past 17 years. Platt is on research leave.

Shay has led the Longy music conservatory since 2000 as vice president for academic affairs and dean. Under his tenure, the conservatory experienced several significant changes, which included a 33-percent growth in its student population.

"Rob Shay brings strong academic and administration skills to the position at MU," says Michael O'Brien, dean of the College of Arts and Science. "At the Longy School of Music, he gained experience in academic affairs, faculty and staff administration, collaboration on budget and development issues, and implemented improvements in these areas. His prior experience at Duke University and Lyon College also helped prepare him as the ideal person to lead our School of Music.

"As the college and campus begin a campaign to build a new performing-arts center, Rob is well suited for his integral role in this project. He and his family are wonderful additions to the college, the campus and the community."

The prelude to Shay's academic career was a bachelor's degree in vocal performance from Wheaton College (Illinois) in 1983. He earned two master's degrees — choral conducting from the New England Conservatory of Music and musicology from the University of North Carolina at Chapel Hill — and a doctorate in musicology from North Carolina.

Shay agreed to an interview to introduce himself to alumni and friends of the School of Music.

Meet Robert Shay, Director School of Music

Q: Why did this Mizzou music school position draw your interest?

A: When I saw the job announced, I was initially unsure if I would throw my hat in the ring, but I eventually did, and soon after I found that the MU School of Music was a very people-oriented place. I enjoyed some great phone conversations and e-mail exchanges with members of the search committee, who expressed how deeply they believe in the place, and I felt this even more strongly while visiting

campus in early December. Not only the faculty, but the administration, the members of the Friends of Music, everyone was interested in building on past achievements to build a better and stronger School of Music — the excitement was really palpable.

Q: What do you see as strengths of our School of Music?

A: First and foremost, the School of Music enjoys a highly dedicated faculty that cares deeply about teaching and professional activity, and that really wants to see the School of Music stretch and fulfill even more of its tremendous potential. There is a talented and dedicated staff in place, too.

Q: What changes will you work toward?

A: I think there will be some changes. To speak in the broadest terms, we all want to see the School of Music raise its profile, to become better known among its peers for excellence and true distinction in programs, and in student and faculty activity. This statement has many ramifications, and we will have to examine all kinds of things from teaching loads to student scholarships. Funding will be a recurring theme in a lot of these discussions, I suspect, but I firmly believe that creativity and hard work can get you to the finish line, even when there seem to be obstacles in your way. I am also eager to en-

gage the School of Music community in a strategic planning process, so that we can collectively shape a vision and plan for the next several years.

Q: Should the School be actively engaged in the Columbia community?

A: This is essential as I see it. I hope we can create a real buzz in Columbia and the region about the School of Music's activities. I would like to see more student groups — including small groups — get off campus for both formal and informal performances and perhaps other kinds of musical activities. We will also have to look at our Community Music Program, which is an important part of a university music school, as I see it, and determine how it fits in with our larger mission and vision.

Q: A Friends of Music volunteer group helps raise scholarship funds. Are there other potential ways to involve this group?

A: The members of this group whom I've met have great energy and are really committed to the School of Music. I think their efforts to raise funds for scholarships have been essential to the School, and there is potential for the Friends of Music to expand their role, to help us create that buzz I mentioned before. More specifically, the Friends will need to be some of our key ambassadors in getting the word out to an even larger group of friends and supporters. We will need an expanded

network as we work toward a new facility for the School of Music.

Q: How important for MU music is the proposed performing arts center?

A: Everyone is thinking about this, and there are clearly frustrations about the current situation. Up-to-date and ample facilities are essential in competing for the best students and faculty, and, more than that, everyone needs to feel like the facilities are supporting and enhancing their efforts. Right now, too many people are saying that they do good work in spite of the facilities.

I know that MU is committed to a new facility for music, but it will take some time. Many of us will need to play a role, in raising both awareness about the needs and the necessary funds to get the project going. One of my roles will be to keep everyone focused on the goals but also to encourage some patience. This effort will play out over several years.

Q: Should the music school present artists as a complement to the University Concert Series? If so, what sort of artists?

A: This is an interesting question. As I see it, the University Concert Series has a mission of bringing top performing artists to campus for the benefit of the entire community. When appropriate, it would be great for the School of Music to partner in these efforts so that artists can present

master classes or other educational programs while they are here. But I can also imagine the School of Music occasionally presenting performers, as well as scholars, composers and others, in ways that directly support and bolster the School's activities.

Q: We are looking forward to meeting you in person. What's your personal view on moving to the Midwest?

A: My wife, Betsey, who is currently a fundraiser with a Boston arts organization, and daughter Katie, who is in 10th grade, are excited about the move. Any move comes with a little sadness as we think about saying good-bye to friends, but we all see this as an opportunity and a new adventure. Also, my wife and I began married life in a large college town (Chapel Hill, N.C.), and we have always missed that environment and the sense of community that comes with it.