Rhythm sense may be tied to language, other abilities

When songwriter George Gershwin wrote "I got rhythm," he may not have realized that not everyone can make that claim. New research by psychologist Dr. J. Devin McAuley may help to explain why some people “feel the beat” while others do not.

McAuley, director of the University’s J.P. Scott Center for Neuroscience, Mind and Behavior, has received a two-year grant from the GRAMMY Foundation to study the neural bases of rhythm perception. He and colleague Dr. Jessica Grahn of the University of Cambridge’s Cognition and Brain Sciences Unit are conducting a study to learn first which areas of the brain show activity when a beat is perceived, and then how these brain activity patterns may differ among individuals.

The results of their study, “Neural Correlates of Individual Differences in Rhythm Perception,” may have implications that extend beyond music. Other research has suggested a possible connection between beat perception and aspects of language development.

McAuley and Grahn’s project was one of six research grants given this year by the foundation, in addition to 12 others for archiving and preservation. The grants are funded in partnership with the National Academy of Recording Arts and Sciences, an organization of musicians, engineers, producers and recording professionals dedicated to improving the cultural condition and quality of life for music and its makers. “The GRAMMY Foundation is an unusual opportunity for us,” McAuley said. “Combining behavioral work with brain imaging and mathematical modeling provides a powerful set of tools to investigate the neural basis of rhythm perception.

“The project offers a unique opportunity to address a number of provocative questions about rhythm perception in musicians and non-musicians,” he said. So far, about 40 subjects have been tested using functional magnetic resonance imaging, which shows “not just what the brain looks like, but also what areas of the brain are active when particular behavioral tasks are performed,” McAuley explained. Initial results of the project suggest that the neural circuits involved in beat perception may be different from those involved in other aspects of timing, such as those used in anticipating the change in a traffic light, he added.

The subjects represent “musically trained and non-trained individuals with a wide range of musical experience,” he said. Fitted with earphones, they listen to a sequence of tones while being asked to perform tempo-perception tasks in which they must judge whether the musical sequences they hear are slowing down or speeding up. “We’re finding that individuals can experience the same stimulus but have opposite perceptions,” McAuley said.

Their responses allow the researchers to determine the ease with which the subjects perceive the beat. Some appear to readily pick it up, while for others it is difficult or even impossible, the early data show. Also, individuals appear to listen using two opposite techniques: “beat-based” or “interval-based,” which also seems to correlate to two theories about people’s sense of timing, McAuley said.

People who easily identify the beat appear to be those who can also internally generate a rhythm, McAuley said. “They seem to feel it,” he observed.

The researchers will examine what drives the lack of beat perception in some individuals and whether the two listening modes engage distinct timing mechanisms that are localizable to different regions of the brain.

“It’s exciting,” he said. “We’re now using mathematical models to predict brain activity. These computational models can help quantify the subjects’ perceptions.”
McAuley, whose research program investigates how humans and other animals time their behavior, said the new experiment began as "an accident in our lab." He and a graduate student disagreed about whether a sequence of tones was slowing down. "We were disagreeing about what we were hearing, and I realized that this disagreement might have important implications for understanding individual differences in music perception," he recalled.

He gives credit to a then-undergraduate student in his lab, Deborah Frater, who followed up on these initial observations with a more formal study that she then presented at the University's undergraduate research conference in 2006.

McAuley, who has been on the BGSU faculty since 1999, received his Ph.D. in cognitive science and computer science from Indiana University, followed by two postdoctoral appointments, one at Ohio State University and the other at the University of Queensland, Brisbane, Australia. Along with former BGSU faculty member Dr. Kevin Pang, he is also in the fourth year of a five-year, $1 million grant from the National Institute on Aging to study the effects of aging on timing. He was named BGSU's Outstanding Young Scholar in 2004.

Internet celebrity, Pulitzer Prize winner among speakers for commencement

Judson Laipply, who gained fame for his Internet video "The Evolution of Dance," is among six speakers who will address graduating students on main campus during spring commencement exercises.

Also speaking will be Tom Orchard of Westerville, an executive with UBS Wealth Management; Henry Fogel of Chicago, president and CEO of the American Symphony Orchestra League, and BGSU seniors Janna Carpenter of Bowling Green, Chanel Griffith of Jamaica, N.Y., and Matt Lefeld of Coldwater.

At BGSU Firelands, the speaker will be syndicated Plain Dealer columnist Connie Schultz, who won the 2005 Pulitzer Prize for commentary. Six students earning associate degrees will graduate with distinction, and two students will graduate with high distinction for academic achievement during the commencement exercises, at 7:30 p.m. Friday (May 4).

Four separate graduation ceremonies are planned Friday and Saturday (May 5) at Anderson Arena in Memorial Hall. The graduating class of more than 2,000 students represents 72 Ohio counties, 38 states and 19 nations.

Graduate College

Laipply, who earned a master's degree in education at BGSU in 2000, will speak at 7 p.m. Friday during the Graduate College commencement ceremonies. Among those graduating at that time will be 12 candidates for doctoral degrees and 282 candidates for master's degrees.

A motivational speaker and "inspirational comedian," Laipply, a Cleveland resident, has performed at more than 500 events and shows, including the Creative Emmys, the NBA Finals and "Good Morning America," as well as at countless schools and corporations such as Verizon, American Airlines and Sony. His "Evolution of Dance" became the most-watched video in Internet history when it surpassed 100 million views in less than nine months. He has since founded "Let's Dance Media," a company that explores the use of new media and creative content.

Undergraduate degrees

On the undergraduate level, 111 bachelor's degree students are expected to graduate summa cum laude, a recognition given to those who maintain a grade point average between 3.9-4.0 on a 4.0 scale. Magna cum laude honors will be given to 143 students for maintaining averages between 3.76-3.9, and 259 students will receive cum laude recognition for main-
In Brief

Tom Orchard, a native of Lima and 1975 BGSU alumnus, will speak to graduating students in the College of Arts & Sciences during ceremonies at 9:30 a.m. Saturday.

Orchard is a licensed New York Stock Exchange supervisor and NYSE registered representative, Chicago Board of Options Exchange registered options principal and Chicago Board of Trade associated person. He is senior vice president of investments and senior portfolio manager for UBS Wealth Management. He is a member of the College of Arts and Sciences Advocates, the Dean’s Council and the BGSU Presidents Club, and has served in various capacities for the Columbus Foundation and the Greater Columbus Area Salvation Army.

Chicagoan Henry Fogel, president and CEO of the American Symphony Orchestra League, will speak to students graduating in the College of Musical Arts and the College of Education and Human Development at 1 p.m. Saturday.

Prior to joining the American Symphony Orchestra League, Fogel spent 18 years as president of the Chicago Symphony. He also previously served as executive director of the National Symphony Orchestra in Washington, D.C., and as orchestra manager of the New York Philharmonic. Business Week magazine named him one of the five best managers of cultural organizations in the United States in 1990.

Speaking at the 4:30 p.m. commencement for students in the colleges of Technology, Business Administration, and Health and Human Services will be degree candidates Janna Carpenter, Chanel Griffith and Matt Lefeld.

Carpenter is a bachelor’s degree candidate majoring in visual communication technology in the College of Technology. An Alumni Laureate Scholar, she has been involved in a number of organizations, among them the President’s Leadership Academy, Student Alumni Connection, University Ambassadors, Mortar Board national honor society and the Bowling Green Black Swamp Players. Named to Who's Who Among Students in American Universities and Colleges, she plans to further her education in the area of printing management.

Griffith, a senior in the College of Health and Human Services, is a bachelor’s degree candidate in criminal justice. She is a member of Phi Eta Sigma honor society, the University Honors Program, the Law Society, the Criminal Justice Organization and the Academic Honesty Committee. She also has served as president of the Black Student Union, scholarship chair for Alpha Kappa Alpha sorority and a peer facilitator for BG Experience. Griffith plans to attend law school at George Washington University.

A student in the College of Business Administration, Lefeld is a bachelor’s degree candidate in business administration with a specialization in supply chain management. A four-year letterman on the Falcon basketball team, he was named an Academic All-American during the 2006-07 season. He also has served as chapter president for the Institute of Supply Management and served on the Student Athlete Advisory Committee his sophomore year.

Quality of undergraduate research best ever, symposium shows

From communication disorders to suspected racism in online games to the possible role of PCBs in autism, BGSU undergraduates are engaged in primary research in a range of disciplines.

Many of them presented their work at the third annual Spring Symposium on Undergraduate Research April 16. The event, sponsored by the Office of Undergraduate Research, celebrates their achievements and provides a venue for them to share their work with others.

This year, more than 50 posters were presented, showing the work of about 70 undergraduates. The president of the Bowling Green chapter of Sigma Xi, the scientific research society
that awards book scholarships and honorable mention certificates at the event, said, “We’ve had the same four judges each year, and we agree that the quality was good the first year and it has continued to improve. This year is the best yet.”

Winning book scholarships were:

- Biology major Todd Koch, for his study with Dr. Sheryl Coombs, biological sciences, of mirror-image stimulation in fish;
- Psychology and sociology major Courtney Ciesinski for her study with Dr. Dara Musher-Eizenman, psychology, of parental feeding practices and the developing child;
- Psychology major Amanda Stewart, for her work with Drs. J. Devin McAuley, psychology, and Steven Seubert, mathematics and statistics, on individual differences in the synchronization behavior of children and adults;
- Biology major Trang Tran, for her work with Drs. Lee Meserve, biological sciences, and Casey Cromwell, psychology, on “Perinatal Polychlorinated Biphenyl Exposure Disrupts Developing Motor Skills and Hormonal Regulation: A Possible Model for Autism”;  
- Biology major Joshua Waldman, for his work with Christopher Winslow and Dr. Jeffrey Miner, biological sciences, on an analysis of mechanisms that may have facilitated the spread of the invasive round goby in Lake Erie.

Sigma Xi presented honorable mention awards to 14 other students, including those majoring in human movement, sport and leisure studies; food and nutrition; physics, geology, biological sciences, chemistry and communication disorders. “Some of them work in collaborative teams” with students from other disciplines, said Sigma Xi representatives.

Help for those with communication disorders

Kenneth Kozlosky, a senior from Mentor-on-the-Lake majoring in communication disorders, presented the results of a study on self-perception of the voice in people with Parkinson’s disease. “There are three facets to the study,” he said. “We wanted to learn the way they perceive their voice, would they be aware of their deficits, and would they be willing to seek treatment.” With help from a grant last summer from the Office of Undergraduate Research, he asked people with Parkinson’s to read a paragraph, which he recorded, and then asked both the reader and his or her primary caregiver to assess the quality of the voice for pitch, volume and clarity. Surprisingly, “the caregivers tended to rate the voice better than they (those with Parkinson’s) did and than we would have expected,” Kozlosky said. “It was kind of a backwards twist.” Working with Dr. Alex Goberman, communication disorders, Kozlosky is seeking to extend the study to 10-15 additional subjects.

The results of an ongoing study into perceptions about people who stutter were presented by Adam Schlagheck, a senior from Genoa and also a communication disorders major. All the people who stutter who were surveyed reported problems with employment, Schlagheck said, but the key to how others felt about their suitability for various jobs seemed to be in personal experience. “Anyone who had known someone who stutters said they (people who stutter) should do anything they want,” he reported, including being an attorney or doing any other job that requires communication skills. Working with Dr. Rodney Gabel, Schlagheck and others in the department are conducting an awareness campaign to educate people about the realities of stuttering. “It’s a fascinating problem,” he said. “I’m thinking about doing a thesis on what’s going on in the brain of someone who stutters and why some people grow out of it.”

A look into a virtual world

The virtual world of online gaming may reflect some aspects of the real world, reported Melinda Jacobs, a popular culture major from Ashland. She looked into the Mafia-themed game Omerta, in which players compete against others elsewhere. In some cases, Turkish players have been refused admission into the game, causing international consternation. Jacobs’ study sought to determine whether this was truly racism or simply a defensive move based on the perception that the Turkish players would be more loyal to their own national groups than to their “virtual” family group.

High school participant

New to the symposium this year was the inclusion of the high school winner of the Arts and Sciences Award from the District Science Day. Taylor Braun, a junior at Sylvania Southview.
High School, presented the results of her study into fertilizer’s effects on the production of lycopene in tomatoes. Lycopene is a phytochemical known for its antioxidant properties. “I found that organic fertilizer produces significantly higher amounts of lycopene,” Braun said. “That was interesting to me because I had expected it to be the other way around.” Calling the study “very timely” because of current public interest in antioxidants and healthy eating, she said, “Now people will know that if they want more lycopene and healthier plants, they should go for the organic fertilizer.”

BGSU part of new energy, environment alliance

BGSU is among 15 Ohio universities that signed a memorandum of understanding last week to create an alliance for clean energy research and development.

Ohio is thought to be among the first states—if not the first—to form such an alliance. The document, signers say, represents a collective message from the state’s major universities about the importance of secure, clean energy to both Ohio and the nation.

The signing ceremony took place in Columbus at the inaugural meeting of the University Clean Energy Alliance of Ohio. At the event, which had the theme “Ohio's Future in Advanced Energy,” Gov. Ted Strickland spoke on the importance of research and development of clean energy alternatives to the state.

Dr. Cynthia Price, associate vice provost for research and director of the Office of Sponsored Programs and Research, took part in the ceremony. She said the alliance gives BGSU researchers an important opportunity “to make connections and share information—it’s a very good networking opportunity.”

Others attending from Bowling Green included Drs. Deanne Snavely, associate dean of the Graduate College; John Folkins, CEO of the University’s Research Institute; Robert Midden, chemistry; Zhaohui Xu, biological sciences; Peter Lu, Ohio Eminent Scholar in Photochemical Sciences, and Felix Castellano, chemistry.

Snavely, who is the chief BGSU contact for the alliance, said plans call for sharing knowledge and expertise related to clean energy, conservation and energy-related issues through conferences, collaborative projects, energy education programs, and serving as resources for industry and public offices. Another area of mutual interest is the commercialization of energy-related technology.

Among other institutions joining the alliance are Ohio University; the universities of Akron, Cincinnati, Toledo and Dayton; and Cleveland State, Miami, Ohio State, Wright State, Case Western Reserve, Central State, Kent State, Shawnee State and Youngstown State universities.

BG scientists make solid case for marine herbicide

In its liquid form, Roundup® herbicide is known as a ruthlessly efficient weed-killer. Now, a team based at the University's Center for Photochemical Sciences has made a version of Roundup's active ingredient that, when exposed to light, hardens into an acrylic polymer—a solid that might prove useful as a herbicidal paint or some other growth-inhibiting coating.

Dr. Douglas Neckers, McMaster Distinguished Research Professor and executive director of the BGSU center, says that such polymerizable herbicides could be made into antifouling paint for boats, to keep algae from growing.
Aneta Bogdanova, research and development director for Performance Coatings International in West Caldwell, N.J., is lead author of a paper describing the team’s work in the current issue of the journal Biomacromolecules. The New York Times has also reported on the research, for which BGSU is seeking a patent.

"The value of the work is still to be determined," says Neckers. He adds, however, "There will be plenty of interest in it from a variety of quarters."

New gateway to BG, BGSU to be dedicated

It began with three BGSU students, their instructor and an idea.

Two years later, that idea has become "The People: A Portrait of the Community," greeting visitors entering Bowling Green, and BGSU, at the corner of Poe Road and North College Drive.

The new gateway to the campus and community will be dedicated Friday (May 4) during a brief 4 p.m. ceremony, which is open to the public. Among those scheduled to attend are BGSU President Sidney Ribeau, Bowling Green Mayor John Quinn, the Wood County Commissioners and other project supporters.

Quinn was among the judges who chose "The People" as the winner of a contest to find the best design for a piece of public art that would represent an appropriate gateway.

Designed by undergraduate art majors Jason Karas, Megan Small and Stephen Williams, along with their instructor and lead artist, Greg Mueller, "The People" is a fence that depicts various campus and community figures involved in their usual activities as teachers, laborers, students, athletes and even dog walkers. It also includes a center piece that shows the landscape of the Black Swamp area, with windmills, corn, and other natural and manmade features.

Unique to the project are the 100 handprints at the bottom of the gateway, representing individual donors. Several of those donors are also expected to attend the event, which comes a day before Small, from Shreve, graduates summa cum laude with a bachelor of fine arts degree. Williams, a senior from Gibsonburg, and Karas, a junior from Akron, are pursuing the same degree.

Located on the site of the Wood County Garage, the project has been a collaboration between the University, the city and the county. The artists worked extensively with city and county agencies during the construction period and received considerable support from the county commissioners and other offices.

The Ohio Arts Council and the Bowling Green Community Foundation contributed grants, and other donors included Defiance Metal Products, the BGSU Alumni Association Board of Directors, Bostdorf Greenhouse, the Bushrer Design Group, DeWitt Rebar, Dig-in-Design, Fastenal Industrial Supply, JK Kreations, Kuhlman Corp., North Branch Nursery, Pahl Concrete and the John Zachrich family.

"Every item and every dollar we received was wonderful," said Mueller, art. "We needed the encouragement to keep going over the long haul, and luckily we got it."

"The ribbon-cutting represents two years of hard work—both artistically and logistically—for the entire group," added Dr. Katerina Ruedi Ray, director of the School of Art. "They have done fund raising, met with the commissioners and had countless visits with engineers, construction people and others to realize their vision."
IN BRIEF

Two provost candidates to visit campus this week

The remaining two finalists for the position of provost/vice president for academic affairs will participate in open forums this week in 113 Olscamp Hall. The forums will also be telecast to the BGSU Firelands campus.

Dr. Thomas Kent, dean of the College of Arts and Sciences at Western Michigan University, will be on campus Tuesday and Wednesday (May 1 and 2). Kent will conduct an open forum from 2:15-3:15 p.m. Tuesday.

The third candidate, Dr. Shirley Baugher, professor and dean emeritus of the College of Human Ecology, University of Minnesota, will be on campus Thursday and Friday (May 3 and 4). She will hold an open forum from 10-11 a.m. Friday.

Candidates' credentials are posted on the BGSU home page.

Dr. Mark Gromko, interim provost/VPAA, was interviewed and held his forum last week.

CALENDAR

Tuesday, May 1

Provost Candidate Open Forum, Dr. Thomas Kent, dean, College of Arts and Sciences, Western Michigan University, 2:15-3:15 p.m., 113 Olscamp Hall.

Faculty Senate, 2:30 p.m., McFall Center Assembly Room.

Thursday, May 3

Administrative Staff Council, 1:30-3:30 p.m., 207 Bowen-Thompson Student Union.

Friday, May 4

Provost Candidate Open Forum, Dr. Shirley Baugher, professor and dean emeritus of the College of Human Ecology, University of Minnesota, 10-11 a.m., 113 Olscamp Hall.

Dedication of Campus Gateway, "The People: A Portrait of the Community," created by students of Greg Mueller, sculpture, 4 p.m., Poe Road and North College Drive. Commencement, Graduate College, 7 p.m., Anderson Arena.

Saturday, May 5

Commencement, College of Arts and Sciences, 9:30 a.m., Anderson Arena.

Continuing Events

April 30-May 4

Exam Week.

Through May 1

Art Exhibition, annual student exhibitions, Little Gallery, BGSU Firelands, Gallery hours are 9 a.m.-5 p.m. Monday-Friday.

Through May 4

Planetarium Show, "Navigating with Lewis and Clark," 8 p.m. Tuesday and Friday, BGSU Planetarium, 112 Physical Sciences Lab Building. $1 donation suggested. Stargazing follows the show on Friday if weather permits.

Through May 5

MFA Thesis Exhibition II, Dorothy Uber Bryan and Willard Wankelman galleries, Fine Arts Center. Gallery hours are 10 a.m.-4 p.m. Tuesday-Saturday.

Through May 6

Art Exhibition, "Inspired by Art: Selections from Ceramics' Permanent Collection and Recent Ceramic Work by BGSU Students," Union Gallery. Gallery hours are 8 a.m.-9 p.m. Monday-Saturday and 10 a.m.-9 p.m. Sunday.
JOB POSTINGS

FACULTY


Labor Postings
http://international.bgsu.edu/index.php?x=facinfohires

Contact the Office of Human Resources at 419-372-8421 for information regarding classified and administrative positions. Position vacancy announcements may be viewed by visiting the HR Web site at www.bgsu.edu/offices/ohr/.

Employees wishing to apply for these positions must sign a “Request for Transfer” form and attach an updated resume or data sheet. This information must be turned in to Human Resources by the job deadline.

CLASSIFIED

On-campus classified:
www.bgsu.edu/offices/ohr/employment/BGSU_only/page11151.html

Off-campus classified:
www.bgsu.edu/offices/ohr/employment/cl_staff/page11145.html

ADMINISTRATIVE

www.bgsu.edu/offices/ohr/employment/adm_staff/page11137.html

OBITUARY

Margaret Barnes, 74, died April 20 in Perrysburg. She worked in Jerome Library from 1967-93.