UAB brings the PhUn back to more students at Deer Valley

PhUn week is an event established by the American Physiological Society that invites its members to volunteer for outreach programs in K-12 classrooms. The purpose is to increase student awareness of physiology in their lives and spark an interest in science.

Faculty, staff and students from the UAB Department of Physiology and Biophysics were overwhelmed by the success of their Physiology Understanding (PhUn) Week outreach program at Deer Valley Elementary School in Hoover this past year.

They weren’t the only ones. When Carmel McNicholas-Bevensee, Ph.D., instructor of physiology and biophysics, went to Deer Valley for her children’s orientation earlier this fall, she was pinned down by several teachers: Are you going to be doing PhUn Week again this year?

So Bevensee returned — this time as the director — with more than 40 UAB faculty, staff and student volunteers. But instead of teaching 200 children in two days, they instructed more than 660 students at Deer Valley during a two-week period beginning Nov. 7.

The department produced the event with help from: Michael Wyss, Ph.D., director of UAB’s Community Outreach and Development (CORD) program, and the American Physiological Society.

First- and third-graders again learned about the heart and lungs and how the body processes the air it breathes. Second-

UAB volunteers teach PT to Chinese health-care workers

UAB alumni Tom and Janet Hicks began working in China as physicians in 1996. They have seen steady progress in the quality of care provided during the past 15 years, but there is much more that needs to be done — especially in physical therapy.

So the Hickses invited a team of physicians, nurses and other health-care providers to China. As a result, an interdisciplinary team of eight people — six with UAB ties — that spent a week in Lanzhou, China, teaching physical therapy techniques to health-care providers.

Scott Bickel (right), assistant professor of physical therapy, was among a team of eight people — six with UAB ties — that spent a week in Lanzhou, China, teaching physiology in their lives and spark an interest in science.

When Mike McNicholas-Bevensee, Ph.D.,

ArtPlay readies for second year, registration open

This time a year ago, Kimberly Kirklin was rushing around frantically inside the ArtPlay house, peaking her head in and out of rooms to see the renovations left to complete before a Jan. 18 opening.

Now? Now when she enters the beautifully restored Victorian home, Kirklin’s senses are put at ease by the sights and sounds.

“We went from an old vacant house to a beautiful place in which people fill the halls with sound and laughter,” says Kirklin, education and outreach director. “There are kids and adults coming every week who feel they are a part of this program and this beautiful house. I can’t wait to see what’s in store for next year.”

With 2012 just a few weeks away, ArtPlay has opened its registration for next semester’s classes on its website at www.artplayasc.org. A complete list of classes is available online and can accommodate ages ranging from pre-kindergarten to adults.

Many popular classes will return for the spring semester, including a range of theater and visual arts classes for adults and children. One of this past spring’s most popular classes was the children’s Meet the Orchestra class, and it will return for spring 2012. Meet the Orchestra is taught in conjunction with the Alabama Symphony Orchestra.

“We've consistently met our ever-increasing goals for enrollment, and I think it's because we provide innovative arts-education programming in a collaborative and holistic environment that endeavors to educate, inspire and nurture creative growth and self-expression.”

— Kimberly Kirklin

Whether you are young or old, ArtPlay has something to offer your family. Registration is under way for the spring semester classes, and the $25 registration fee will be waived for UAB employees and students who call 975-4769 to register.

For more info and class schedules, visit www.artplayasc.org.
UAB’s undergraduate catalog now online
UAB’s 2011-12 undergraduate catalog now is online at www.uab.edu/students. The new site features details about majors, courses, programs, faculty and other information in a user-friendly format that provides quick links to important information.

First payment deadline for spring is Dec. 30
Students must pay 50 percent of their account balance by Dec. 30. Awards for financial aid, scholarships or other forms of aid will be applied to student accounts prior to the Dec. 30 deadline.

Failure to make this payment will result in cancellation of the student’s class schedule: Students may view an estimate of their initial payment by visiting the Registration Status at a Glance webpage. Students may access their actual initial payment amounts through BlazerNET beginning Dec. 16. To learn more about the payment policy, visit www.uab.edu/whentopay.

UAB Gospel Choir to honor Civil Rights heroes with concert
The UAB Gospel Choir will pay tribute to the music and heroes of Alabama’s steel and coal history and the Civil Rights Movement — and celebrate its own 16th anniversary — with a theatrical concert, “Gospel Anthology II,” at 7 p.m. Monday, Nov. 21 in UAB’s Alys Stephens Center.

“Gospel Anthology II: The Church & the Civil Rights Movement” will pay homage to an era of freedom and protest songs sung at marches throughout the Southeast and the nation.

For tickets, call 975-2787 or 934-4001. Visit the UAB Department of Music online at www.music.uab.edu.

Formerly imprisoned U.S. hikers to speak at UAB Nov. 30
Three American hikers captured international headlines when they were detained July 31, 2009, for alleged espionage in Iran’s territory. Now free after two years of public outcries, international campaigns and negotiations, the friends will give their first talk on an American college campus at UAB at 7 p.m. Wednesday, Nov. 30 in Bartow Arena. The free, public lecture is sponsored by the UAB Lecture Series.

WBHM, ASC to bring Mo Rocca for Holiday Comedy Show Dec. 16
UAB’s Alys Stephens Center and public radio WBHM 90.3 FM will present the Holiday Comedy Show starring Mo Rocca at 8 p.m. Friday, Dec. 16 in the center. Rocca will make your spirits even brighter as the humorist, actor and writer uses razor-sharp wit to dissect everything “holiday.”

Best known for his off-beat news reports and satirical commentary on “The Daily Show” with Jon Stewart and “The Tonight Show” with Jay Leno, Rocca is a panelist on public radio’s popular “Wait Wait . . . Don’t Tell Me!” For part of the evening, he also will be joined on the stage by facilitator and wellspring of local knowledge Will Pearson, a Birmingham native and co-founder of Mental Floss magazine.

Tickets are $30.50, $25.50 and $20.75. Student tickets are $20. Call 205-975-2787 or visit www.AlysStephens.org.

WBHM is a listener-supported service of the University of Alabama at Birmingham; you can listen online at www.wbhm.org.
Use the holidays to gather your family’s health history

Gathering your family health history: What to do?

• Talk to grandparents or great-grandparents and make detailed records of your immediate family — parents, siblings and children.
• Jot down names, year of birth and death and any health problems they had, including at the age at which they first were diagnosed.
• Ask about siblings who died during childhood, and if so, why.
• If any family member died at a young age, try to determine if it was the result of an accident, known medical problem or because of an unexpected or unknown medical condition.
• If there is any cancer in the family, ask the kind and the age family members first were diagnosed. Ask similar questions about heart disease, diabetes, mental health conditions or other common conditions in adulthood.
• Try to collect information on three generations of family members. If you can’t get that many, just get as many as you can.
• Be sure and get information from both your mother and father’s sides of the family.
• Visit www.hhs.gov/familyhistory and follow the complete guide created by the Surgeon General for creating a family health portrait.

Be mindful that these subjects may be difficult for some, Holt says.

“Every family and family dynamic is different, so we encourage people to open the discussion by saying that you’re trying to collect your family health history so you can have a record of the types of conditions that run in the family,” Holt says. “Just ask, ‘Can you help me with that?’”

Holt suggests sitting with a relative or two to open the discussion. And be prepared that there may be emotional issues you may not even know you’re unleashing. If someone becomes upset, apologize; tell them you didn’t realize this would be so upsetting and end the conversation.

Holt says often a seed is planted in that family member, and they may come back to you later.

“We’ve actually had situations where people have written back to the individual who was trying to collect the history, telling them it was too difficult to talk about, but they wanted to send a quick note about what they knew,” Holt says. “Don’t expect to get all the information you want from one person either. You may get bits and pieces and have to fill in the gaps. You have to build your history over time in most cases.”

If you are a family matriarch or patriarch, consider volunteering this information to your children or grandchildren this holiday season as well. “That’s a tremendously valuable gift to give,” Holt says.

Prepare a document to give to relatives that detail anything from cancer diagnoses to heart health to diabetes to whether or not miscarriages were common. And if you can give an account from both sides of the family, that’s even better. A guide to use is available at www.hhs.gov/familyhistory.

“A family history of poor pregnancy outcomes is especially difficult for us to collect from our patients,” Holt says. “Often families don’t talk about stillborn babies, miscarriages or babies who have died young. Many of these things likely occurred in our grandparents’ generation. But if a genetic counselor knows these things, it could be an indicator of some kind of inherited condition. And if a healthy woman planning her pregnancy knows about these issues and could relate them to her OB/GYN, they may be able to offer her different screenings or testing during her pregnancy.”

Other important areas to explore for answers are cancer, heart disease, diabetes, mental health conditions or other common conditions in adulthood. Ask when the condition was first diagnosed, age of diagnosis is medically more valuable than age of death in determining heritable conditions. Also look into any environmental exposures that may explain family health problems, such as occupational exposures, smoking or pollution.

“Once you’ve collected this information, share it with your physician,” Holt says. “They can help determine if there are certain health conditions for which you need to be evaluated based on your family history.”

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Faculty from the UAB Department of Health Services Administration will train hospital administrators for the new 1,500-bed King Fahad Specialist Hospital in Dammam, Saudi Arabia. The two-year, $2.2 million partnership agreement recently was signed by UAB President Carol Garrison, School of Health Professions Dean Harold Jones, Ph.D., and Khalid Sabr, M.D., executive director of medical and clinical affairs at King Fahad Specialist Hospital.

“This is an exciting opportunity for UAB,” Garrison says. “Our programs in health administration and our faculty are among the nation’s best at providing academic and experiential instruction in health administration. We have much to bring to the table, and this also is a great opportunity for our faculty to learn from the staff at King Fahad Specialist Hospital-Dammam.”

Under the partnership, some 35 physician/administrators from King Fahad Specialist Hospital-Dammam will enroll in the School of Health Professions’ Master of Science in Health Administration Executive program. Three UAB faculty will teach in Saudi Arabia at least once a semester for a week beginning in January. Robert Hernandez, director of international education in Health Services Administration, says up to 12 UAB faculty will travel to Saudi Arabia during the two-year period. The in-country classroom experiences will be complimented by distance learning and applied coursework.

“We are looking forward to this collaboration,” Sabr says. “We are moving from a 400-bed hospital to a 1,500-bed hospital, and one of our major challenges is human resources.”

Sabr says the new King Fahad Specialist Hospital, which will be built and operating in 48 months, will be more of an academic center than a tertiary hospital and will need a strong management team. Many physicians in Saudi Arabia also are administrators, but that arrangement is not well-suited for the new hospital, which will be almost four times the capacity of the existing hospital, he says.

“UAB’s leadership program is considered one of the best, and we decided it was the one we wanted to give to our staff to help them accomplish their tasks,” Sabr says. “By the time we open the hospital, two groups will have graduated; that will give us the staff that we need to operate the hospital.”

Jones says health-management education is a critical issue worldwide, particularly preparing people to run large enterprises such as the new King Fahad Specialist Hospital-Dammam. UAB’s Master of Science in Health Administration program has trained leaders in health-care management for almost 50 years, and it is ranked fifth by U.S. News & World Report. The program also has a long history providing executive education. In fact, one of its first international efforts was clinical laboratory education in Saudi Arabia almost 20 years ago.

“We also have much experience working in countries such as Yemen, Kazakhstan, Armenia, Albania and China, to name a few, and it certainly is exciting for us to be able to return to work in Saudi Arabia again,” Jones says. “It’s a great fit for us and a great opportunity for us to grow. We’re excited about the conversations we’ll have and the work we have in front of us together,” Jones says.

UAB Volunteers

CONTINUED FROM PAGE 1

Therapy and one of the team members, “In some aspects, it’s like going back in time 40 years. People stay in the hospital longer than they do here. Their rehab options are very limited. They see they can be doing better in that area, and they want to improve.”

Bickel and his fellow team members spoke and conducted training sessions at a Lanzhou hospital and a local nursing home. Other UAB team members on the trip were Britni Russell, registered nurse in Trauma/Burn ICU and a School of Nursing alumna; Kate Sewell, registered nurse at Children's Hospital and a School of Nursing alumna; Jenny Wilson, physical therapist at Spain Rehabilitation Center and Department of Physical Therapy alumna; Lee Williaming, a student in pre-nursing; and Gabrielle Hoods a student in pre-med. Other team members included David Mallette, a physical therapist and clinical instructor for UAB students; surgeon John Toulouloris; and physician Tom Worthington.

The UAB team also trained community health workers and nursing home volunteers on best-practice physical therapy techniques that ranged from turning patients in their beds to basic exercises they were doing in terms of the population to rehab professionals. But they want to improve that and increase the number of people and quality of training.”

Hicks says the quality of physical therapy care provided in China often varies by region. There are some areas in the east that have strong programs, he says, but the northwest, where he and Janet work, is struggling.

Hicks hoped that bringing professionals from the United States to demonstrate physical therapies to local hospital staff would encourage them to think about ways to develop their program.

“I think the visit was very successful,” Hicks says. “They opened some eyes and caused some people who already thought they were doing physical therapy — when it really was just a massage — to reevaluate what they were doing in terms of patient care and outcomes. I have high hopes this will stimulate further development of PT in local hospitals.”

Bickel had traveled to Beijing previously and seen patient rehabilitation in some of the largest hospitals. This summer’s trip provided him an opportunity to compare the big hospital experience with the treatment in rural settings.

“In Beijing there are rehab professionals and a rehab department in the hospital,” Bickel says. “Now you go out to this rural hospital in Lanzhou, and there’s a rehab department, but with much fewer personnel. But at the nursing home there is none. So there is a great need.”

The Department of Physical Therapy has been part of multiple projects in China in recent years through Project Hope, connected to UAB through Howard House, Ph.D., professor emeritus and the former associate dean in the School of Health Professions. House and UAB personnel have made trips to China and hosted visiting scholars to train in rehabilitation.

Both Bickel and Hicks hope there can be future partnerships.

“For the past seven years, I’ve been trying to find ways to tie my profession to some international activities, and I have an interest in that part of the world,” Bickel says. “My mother was born in China, and we adopted a child from Taiwan. There’s a great need there, and I hope to continue to be part of helping out.”
UAB’s Hospital Maintenance Department has worked tirelessly for 30 years to ensure that children in UAB Hospital — awaiting a transplant, fighting cancer or seeking treatment for some other disease — still experience the joys of the holidays.

Organizers of the 30th annual Christmas Toy Fund once again look for support from Santa’s elves among UAB employees and friends by Friday, Dec. 9 to help ensure this Christmas is extra special for children and their families who will spend the holidays in the hospital.

“I’ve been fortunate enough to be a part of this event for the past 18 years as an employee in Hospital Maintenance, and it’s a joy to be able to use your job in such a positive and uplifting way,” says Reggie Robinson, an electronic technician and director for this year’s drive. “We have kids from all over the state who come through the pediatric department, and it’s a great feeling to be able to reach out, fill an important need and be a meaningful part of their lives. You never want to miss an opportunity to bring these children and their family moments of happiness and joy. And it would not be possible without the efforts of the UAB community.”

In addition to providing gifts to hospitalized children, the toy drive helps fill the toy chest in the playroom on 5 North, says Jane Love, director of the Child Life Program. Love and her staff help reduce the stress experienced by hundreds of children and families each year and help them cope with potentially traumatic situations.

“Our playrooms have a calming effect on anxious children,” Love says. “Every day we see children — many who come in for the first time — who are afraid of the hospital and the medical staff. Once they walk into the playroom this strange place becomes a friendly one, with a dollhouse and games and wagons and cars to ride in. And for some of our parents, important and lasting memories of their children are made in this room,” Love says. “Child Life and the 5 North Staff are thankful for the Maintenance Department and the UAB family who support this endeavor.”

To donate to the Christmas Toy Fund, send a check payable to the UAB Maintenance Pediatric Toy Fund, 619 19th St. South, Room S036, Birmingham AL 35294. For more information, contact Robinson at 934-6183, Tabatha Isaac at 934-5430 or Elaine Logan at 934-6480.

Sixteen UAB physicians and researchers were selected for awards during the UAB Comprehensive Cancer Center’s 14th annual Research Retreat and Research Competition.

The research competition enables junior faculty, postdoctoral fellows and graduate students to showcase their work in the areas of cancer research, cancer prevention and control research and bioinformatics research. This year’s competition included 112 poster presentations and awards were given in eight categories.

Louis Burt Nabors, M.D., professor and director of the Division of Neuro-Oncology, Department of Neurology received the Albert F. LoBuglio Distinguished Faculty Award, presented annually to a Cancer Center investigator who has made outstanding research contributions.

The John R. Durant Award for Excellence in Cancer Research was presented in three categories. Winners were Christopher Willey, M.D., Ph.D.; Hyunki Kim, Ph.D.; and Eddy Yang, M.D., Ph.D. Mudit Vaid, Ph.D., director of the Division of Neuro-Oncology, Department of Neurology received the Albert F. LoBuglio Distinguished Faculty Award, presented annually to a Cancer Center investigator who has made outstanding research contributions.

Anandi Sawant, Ph.D., received the Tandra Chaudhuri Award for Excellence in Cancer Research. The Seng-Soong Award for Excellence in Biostatistics and Bioinformatics Research was presented to Ana Vazquez, Ph.D., and Jessica Schmitt received the Cancer Research Experiences for Students (CARES) Award.
Michael Niederweis, Ph.D., has spent most of his career trying to breach two formidable barriers. The first is the cell wall of Mycobacterium tuberculosis, the bacterium that causes tuberculosis (TB), which causes more deaths each year than any other bacterial pathogen. The second is the opposition of the TB research community, which has been slow to accept the UAB microbiologist’s revolutionary discovery about that wall.

Bacteria have evolved two types of cell walls to protect themselves from their environments. Some have a slimy, sugary coat while others have an outer membrane, like the wall of a fortress. TB researchers had long believed that the Mycobacterium tuberculosis bacterium had a cell wall that was unique but nevertheless similar to the sugar-coated bacteria. Niederweis and his team have shown evidence for an outer membrane, a finding that could have a profound impact on the development of new TB drugs.

But it hasn’t been easy convincing people the textbooks are wrong. Many of the papers that Niederweis and his colleagues submitted to journals were met with skepticism, he says. “Peer reviewers would say our work is innovative, and they liked it as a lab, but they thought, ‘Well, he is just a crazy guy who works on something that doesn’t exist,’” he recalls.

Solving the membrane mystery

Niederweis found the first clue to the existence of an outer membrane in a 1992 report demonstrating that the cell wall of a bacterium related to Mycobacterium tuberculosis might contain water-filled channel proteins called porins. These porins act like doors in a wall, allowing for small molecules to pass through outer membranes without compromising the integrity of the cell, he explains.

“The existence of these porins would make sense only if mycobacteria have an outer membrane,” he says. Niederweis and his colleagues isolated and characterized a mycobacterial porin, and their findings, published in the journal Science in 2004, strengthened the idea that Mycobacterium tuberculosis might have an outer membrane.

However, the TB research community remained skeptical. Niederweis’s team then used cyro-electron microscopy to visualize the cell wall in its natural state. In 2008, working with a group at the Max Planck Institute for Biochemistry in Germany, Niederweis and colleagues published images of the outer membrane of bacteria similar to Mycobacterium tuberculosis. Since then, other scientific groups have independently verified the findings, and today, TB researchers are beginning to accept the new model of the mycobacterial cell envelope.

New targets for TB

With the wall of resistance beginning to crumble, the Niederweis lab is studying the proteins in TB’s cell walls with the hopes that one might represent an antibiotic target. Antibiotics clear most bacterial infections within a few weeks, yet current drugs require six months to cure a TB infection. Niederweis believes that the outer membrane is one of the reasons for the prolonged drug treatment.

“All the putative drug targets inside the cell are protected by the outer membrane, so it’s very difficult to reach these targets,” he says. “What appears to be more promising are targets on the outside of the cell.” As a result, he says, future anti-TB drugs may be able to greatly reduce the duration of treatment for one of the world’s oldest and deadliest bacterial pathogens under a magnifying glass and see a demonstration on how food is absorbed by filling a piece of sausage casing with a glucose solution. The children then used a glucose dipstick to indicate the movement across the casing, thereby mimicking absorption.

This year’s program also will be available to the public at the McWane Center in Birmingham Monday, Jan. 16, 2012.

“We hope it gives them a little bit of an appreciation of how complicated their body is and an interesting in learning about it,” Bevensee says. “The more they know about physiology, the more they have healthy respect for their own bodies.”
Social media helps elderly reconnect with their loved ones

Funny-sounding words like Google and Twitter were foreign to 82-year-old Peggy Batcheler. The retired nurse had never been on the Internet, didn’t know how to get there, and didn’t have the foggiest notion that “going online” might be a remedy for growing isolation.

For years, she had been able to move along through life without the World Wide Web just fine. That is, until her fashion catalogs and church bulletins were published solely online. Then, she was left in the dark.

Sociology Professor Shelia Cotten, Ph.D., and a team of graduate students have turned on the light for Batcheler and her 80- and 90-year-old peers. They are introducing them to the Internet and its connections on Facebook, Google and Twitter to study the effect on quality of life.

After a few weeks in class, Batcheler was surfing the Web like a teenager, and the results have been stunning. The elderly users are happier, Cotten says, because they’ve reconnected with their lost social circles, are feeling good about learning something new and even recapturing old hobbies.

Funded by a five-year grant from the National Institute on Aging, Cotten’s team has been hosting eight-week computer-training courses for residents in independent and assisted-living facilities since 2009 in five locations; they plan to extend the program into 10 more.

Seniors who move into these homes often become depressed because they lose regular contact with their established social networks, Cotten says. But, communicating via email and social networking sites appears to be a good remedy. In findings to be published in Computers in Human Behavior, Cotten says Internet use reduces depression by 20 to 28 percent among older, retired adults.

Going online allows them to correspond with family and friends more often, see pictures of grandkids and watch videos of family vacations.

“They no longer feel that life is passing them by and that they are left there to die,” Cotten says.

Less than 20 percent of the study participants had used computers beforehand, Cotten says. But after a couple of weeks in class, they were surfing the Internet just like their grandkids.

On a recent Monday at Fair Haven Retirement Home in Birmingham, smiling white-haired seniors — some wearing oxygen masks, bifocals and hand braces — sat in front of large computer monitors with keyboards that they often go to Google StreetView to check out their old neighborhood or childhood home, surf over to YouTube and watch clips from old classic movies and spy on Facebook to see what their grandchildren are doing.

Every day is an adventure,” says 80-year-old Helen Fry, who had never been on the Internet before but now emails her grandchildren in New York.

Older adults are one of the fastest-growing demographic groups online, research shows, for three reasons: their children and grandchildren are pulling them online to engage; an increase in courses offered for seniors; and the ease of use of technology.

Batcheler and classmates googled a burning question and found the response in .09 seconds, she says.

“Someone wanted to know if, when you get up in the middle of the night, you could heat up your milk in the microwave?”

“The answer?”

“No,” Batcheler said. “It’s best to put it in a microwave-safe container.”

UAB helps FBI crack major international cybercrime case

UAB researchers helped the Federal Bureau of Investigation and NASA Office of Inspector General identify seven foreign nationals arrested for a mass, sophisticated Internet fraud that infected more than 400 million computers in 100-plus countries and scammed $14 million.

The defendants in FBI Operation Ghost Click were tracked down with assistance from the UAB Spam Data Mine, which archives and analyzes spam campaigns gathering more than 1 million emails per day. The database, which holds about 550 million spam email messages, is the reason law enforcement asked UAB for assistance.

“The information we received from UAB’s software was invaluable to our efforts in the apprehension of these international suspects,” said FBI Supervisory Special Agent Thomas Grasso Jr.

At least 500,000 computers infected in the United States belonged to government agencies — including NASA, educational institutions, non-profit organizations, businesses and individuals. (UAB’s computers were not infected.) The malware secretly enabled the defendants to hijack Internet searches and redirect computers to certain websites and advertisements and prevented infected computers from installing anti-virus software.

“The UAB Spam Data Mine allowed us to tell the FBI when new email-based threats contained versions of particular computer viruses that were related to the malware family associated with this case,” says Gary Warner, director of Research in Computer Forensics in the UAB College of Arts and Sciences. “Our team can help law enforcement quickly track down and successfully prosecute cybercriminals anywhere in the world because we can identify related spam almost instantaneously.”

Warner, five times selected as a Microsoft Most Valuable Professional and author of the Cyber Crime & Doing Time blog, is a member of UAB’s Center for Information Assurance and Joint Forensics Research. The center, known for interdisciplinary research and development, offers law-enforcement solutions in many areas, including spam data-mining, phishing, computer security, computer intrusion and identity theft.

“We created the center to respond to rapidly emerging and enduring threats to global, domestic and regional commerce and safety,” says its founding director Anthony Skjellum, Ph.D., chair of UAB Computer and Information Sciences.

“Our team has taken the lead in helping law enforcement eradicate cybercrime by making it near impossible for online criminals to hide.”

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NOW ACCEPTING METLIFE DENTAL COVERAGE

The UAB School of Dentistry is now a preferred provider for MetLife. UAB employees covered by MetLife can receive the same expert care for just the cost of their co-pay.

- **STUDENT CLINICS** UAB's skilled students offer basic services for, on average, 50 percent less than private practice.

- **SPECIALTY CLINICS** UAB's residents provide specialty care in orthodontics, pediatric dentistry, periodontics, prosthodontics, endodontics, and oral and maxillofacial surgery for, on average, 30 percent less than private practice.

- **UAB DENTAL GROUP** UAB's expert faculty and board-certified specialists provide private-practice dental treatment.*

To set up an appointment with clinics, call (205) 934-2700 Monday through Friday, 8:00 a.m.-4:30 p.m. For additional information, please visit [dental.uab.edu](http://dental.uab.edu).

To set up an appointment with the UAB Dental Group, call (205) 934-2340. For additional information, please visit [uabdentalgroup.org](http://uabdentalgroup.org).

*Only certain members of the UAB Dental Group have enrolled as preferred providers for MetLife. When making your appointment, remember to ask if your provider has enrolled.