

Oct. 21, 2011

Ballistics lab

Ready, aim.....test!

YSU's Mechanical Engineering Technology program is firing up its ballistics testing lab this semester as part of a \$1.2 million research project to develop better armor for the U.S. military.

Seniors Sean Ludt of Niles and Michelle Curl of Leetonia, along with assistant professor Brian Vuksanovich, are teaming up with the Army Research Lab, Fireline Inc. and YSU's chemistry department to test new materials that can be used as armor to protect against small firearms.

YSU Chemistry Professor Tim Wagner and engineers from Fireline, a high-performance ceramics manufacturer in Youngstown, are developing materials for the armor. The MET students then test the material by firing projectiles at a composite sample and analyzing results. The Army Research Lab will use the findings and material for armor to protect soldiers and vehicles in combat.



From the left, senior Sean Ludt, Assistant Professor Brian Vuksanovich and senior Michelle Curl analyze a sample after a firing test in the ballistics lab in Moser Hall.

To create more effective armor, Vuksanovich said that the material needs to be a lighter, equally strong version of what's currently being used. The material they're testing is a less expensive alternative to steel and is castable in any shape, making it ideal to manufacture, he said.

The students use the MET program's closed-range ballistic tester for the research trials. The equipment is part of a high-speed 3D ballistic imaging lab that was installed in the basement of Moser Hall last March. Only two other academic labs in the nation have the same 3D video analysis capabilities.

Vuksanovich and the students designed the ballistic tester for these experiments and built the advanced computer system that records and processes test data. The tester provides a completely enclosed environment equipped with its own lighting, eight viewports and two high-speed color cameras capable of capturing 150,000 frames per second.

For each test, the students mount a material sample in the tester and set up the cameras to capture the projectile hitting the sample. Using the tester's electronic firing system, they then shoot a 7.62mm rifle cartridge with an M-80 projectile down a 15-foot drift tube and past two chronographs that record its speed. The cameras record the projectile's impact on the sample, and the students then analyze the video and sample to see how it performed.

"We track the ceramic pieces that fly off, how the bullet hits the sample, how it impacted it, the speed of the bullet," Curl said, "and we also analyze the cracking patterns on the sample."

The group is finding that the samples are holding up better than current armor technology. "Typically, armor is only good for about one bullet," said Vuksanovich. "We're finding that this material is good for two or three."

He said representatives from the Army Lab Research visited YSU in July and were pleased with the early findings.

Ludt and Curl believe their work in the lab will help with future job opportunities, and Vuksanovich agrees. "The benefits of this undergrad research for the students is that they get hands on experience that translates into job offers," he said.

"It really gives us an advantage over a lot of other schools—larger schools, no less," Ludt said. Ludt interned at Picatinny Arsenal/The Joint Center of Excellence for Armaments and Munitions, in Picatinny, N.J., for nine months, helping to design force protection on different vehicles. He was also an intern at Sturm, Ruger and Co. in Newport, N.H., the nation's largest manufacturer of commercial firearms. Curl interned with Picatinny last summer, as well as Brilex Industries Inc., a materials manufacturer and supplier in Youngstown, and she is planning an internship with Ruger next year.

Story by Andrea Armeni

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Eating healthy on campus

No time to pack that healthy eggplant and salmon salad for work every day?

As part of YSU's Living Well Employee Wellness Program, students in YSU's Coordinated Program in Dietetics this month presented "Decoding the Puzzle of Healthy Eating at Work" to outline strategies for finding quick and nutritious food choices on campus.

"When you're at work and busy, you might need to choose those fast options, but there are so many products out there that it can be frustrating," said Amy Carion, one of the three dietetics student presenters. "Our presentation helps decode that puzzle and sort out the confusion of healthy eating at work."



Check out a few of their suggestions below for healthy, on-the-go campus breakfasts, lunches and snacks.

Pick the cream of the kiosk crop. When the snooze button is more enticing than a hearty at-home breakfast, campus kiosks offer solutions to start the day. These small food stops are found in several buildings on campus, including Cushwa Hall, Williamson and Kilcawley, and have a variety of quick meal and snack options. For a nutritious early morning snack, choose:

- Cereal and skim milk over pre-packaged breakfast sandwiches or pastries, which are high in trans and saturated fats.
- Fresh fruit over fruit juice for a better source of fiber

Fruit is one of the healthy snack alternatives on campus. Pictured here is Diane Zinghini at the Corner Café on the Wick Avenue pedestrian bridge.

and nutrients.

- Dannon’s Light & Fit yogurt—a great source of vitamin D, protein and calcium at only 80 calories, 11 grams of sugar and zero grams of fat.
- “Skinny” coffee options; a tall skinny Starbucks latte is only 90 calories, while the whole-milk version is 220.

Tips for eating lunch on campus:

- Pick one of Arby’s “Feel Good 5” meals—like the Jr. Roast Beef, Value Curly Fry and Small Diet Pepsi at 480 calories—for a lunch that’s under 500 calories.
- Order a Jimmy John’s “Unwich,” a lettuce-wrapped sandwich.
- Ask for extra veggies on Inner Circle pizza with a side of wedding soup.
- Opt for a veggie-loaded sandwich like the La Verde or Tuna Mediterranean at University Pizzeria.
- Skip the mayo—always.
- Order salad dressings on the side, and stick with “light” over “fat-free” picks so that your body can absorb the good, fat-soluble vitamins in your salad.
- Choose broth-based soup and red sauces over their creamier counterparts.
- Pick wraps over sandwiches with carbohydrate-rich breads.

Look before you vend. If you didn’t have time to pack those carrots and celery sticks, a vending machine might be your only source when a four o’clock craving hits. To stay on track, remember to “Go for the Green” in AVI Foodsystems vending machines. Green-marked spiral holders indicate healthy snacks.

Story by Andrea Armeni

The coordinated program in dietetics students recommend healthy alternatives to several fattening vending machine favorites.

Instead of...	Pick...
Milky Way	Fiber One Oats & Chocolate Bar
Cheetos	Sun Chips
Pop Tarts	Nature Valley Granola Bar
TGI Friday’s Potato Skins	Fat Free Snyder’s Pretzels
Baby Ruth	Peanut M&Ms

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Student Success Stories

Members of the Dana School of Music's Saxophone Quartet and two nominees for the prestigious Marshall Scholarship are the latest students to be featured on the [YSU Student Success Stories](#) webpage. The page features more than 70 high-achieving YSU students.

Dana Saxophone Quartet places first

The Dana School of Music Saxophone Quartet took first place in state at the Music Teacher's National Association Collegiate Chamber Music Competition, held Saturday, Oct. 8, at Bowling Green State University.

They now advance to the East Central Division regional competition, which will take place in early January at Western Michigan University in Kalamazoo, Mich.

Quartet members include:

- **Mark Higgins** of Pittsburgh, Pa.; soprano saxophone and junior instrumental performance major.
- **Brian Newell** of Peoria, Ill.; alto saxophone and first year grad student in saxophone performance.
- **Kevin Snyder** of Pittsburgh, Pa.; tenor saxophone and junior music performance major.



YSU students, from left, Mark Higgins, Brian Newell, Kevin Snyder and Aaron Lockhart make up the Dana School of Music Saxophone Quartet, which just placed first in state at the Music Teacher's National Association Collegiate Chamber Music Competition.

- **Aaron Lockhart** of Rochester, N.Y.; baritone saxophone and senior saxophone performance major.

At the state competition, the quartet performed Desenclos' "Quatuor pour Saxophones," Guy Lacour's "Quatuor pour Saxophones" and Singelee's "Grand Quatuor Concertant." They will perform these pieces at the regional contest, where they will be competing against state champions from Illinois, Indiana, Michigan, and Wisconsin.

The winner of the East Central Division regional will then go on to compete in the nationals against the winners of five other regional competitions.

Students nominated for international scholarship

Two Youngstown State University students have been nominated for the prestigious Marshall Scholarship.

Senior Mario Sracic of Hermitage, Pa., is a mathematics major with a dual minor in computer science and statistics. Kevin Hulick of Austintown is a senior with a double major in political science and economics and a minor in philosophy.



From left, Kevin Hulick and Mario Sracic

Founded by a 1953 Act of Parliament in the United Kingdom, the Marshall Scholarships finance young Americans of high ability to study for a graduate degree in England. Up to 40 scholars are selected annually.

Sracic tutors at YSU's Mathematics Assistance Center. He is a member of the Leslie H. Cochran University Scholars Program and the YSU Honors Program. Having won regional and national awards for mathematics competitions, Sracic has also completed a Research Experience for Undergraduates at Kansas State University this summer.

Hulick is a recipient of the Dean's Scholarship and various competitive scholarship awards in his fields. He has also won national awards for his performances in moot court competitions and for the briefs he has written in conjunction with them.

Sracic's and Hulick's application packets for the scholarship were endorsed by the university after Ronald Shaklee, director of the Scholars and Honors programs, reviewed them and determined their academic credentials to be viable for the scholarship program. They now enter the Chicago regional portion of the process, where their applications will be judged for the interview round. In November, the candidates to be interviewed for the national selection process will be announced.

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Maiden Trust establishes student scholarships

A trust fund established by the late Mahoning County Common Pleas Court Judge Erskine Maiden Jr. has donated \$450,000 to YSU to provide scholarships for students in Mahoning County.

“I never had the privilege of meeting Judge Maiden, but this donation makes it obvious that he loved this community and recognized the importance of higher education,” YSU President Cynthia E. Anderson said. “This scholarship will help many students pursue their educational and professional aspirations.”

Maiden, born in 1891, was a 1909 graduate of The Rayen School in Youngstown and earned a bachelor’s degree from Harvard College. He attended Harvard University Law School and earned a law degree from the Law School of Case Western University in Cleveland. He was made a judge of the Mahoning County Common Pleas bench in 1930. He was president of the Union League of Youngstown and a member of the Youngstown Kiwanis Club and the Free and Accepted Masons. He taught at the Youngstown College School of Law for 28 years.

Prior to his death in August 1967, Maiden made provisions to establish a trust at the Youngstown Foundation upon the death of his surviving wife, Irene. Mrs. Maiden died on Oct. 18, 1991, and the trust was established, with the proceeds going to fund scholarships at YSU for needy students living in Youngstown. The trust specifies that the funds would be gifted to YSU 20 years after the death of Mrs. Maiden.

On Oct. 18 – 20 years after Mrs. Maiden’s death – the trust funds will be turned over to YSU. A news conference will be held on Oct. 18 in Jones Hall, the building where Maiden spent nearly three decades as a part-time law instructor.

“It is appropriate that we are holding the news conference in Jones Hall on Oct. 18 to celebrate the generosity and the foresight of Judge Maiden,” said Jan Strasfeld, executive director of the Youngstown Foundation. “With his successful law career and many community activities, Judge Maiden obviously made his mark in the 20th century. With this scholarship, he will continue to make his mark in the 21st century as well.”

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Faculty/staff awards, presentations, publications

Ruigang Wang, assistant professor, Chemistry, presented his research on nanocatalysts for automobile exhaust clean-up, titled “Probing the Atomic-Level Structure and Chemistry of Low-Temperature Reducible Ceria-Zirconia Nanoparticles,” at the 22nd North American Catalysis Society Meeting at Detroit.

Will Greenway, professor, English, has had several of his poems published recently. Poems titled “The Diet of Dorian Grey” and “The Milk of Paradise” were published in the spring edition of *Rockhurst Review*; “Ulysses Comes Clean” in the spring issue of *Natural Bridge*; “Up Your Alley” and “Room at the Inn” in the May issue of *Red Booth Review*; “ ‘Self-Deliverance’ ” in *River Styx*; “Aphrodite” in the online *The Cleveland Review*; “Skyline” in the online summer edition of *The Innisfree Poetry Journal*; “Turkey Bone Gumbo” and “The Gospel of Joseph” in the summer edition of *Tidal Basin Review*; “The Empty Space Where John Would Be” and “Mixing the Metaphor” in the fall edition of *The Dos Passos Review*; “Rage” in the *Santa Fe Literary Review*; and “The Never Summer Mountains” in *Naugatuck River Review* this summer.

David E. Stout, professor and Andrews Chair, Accounting and Finance, participated in a panel presentation, titled “Building Partnerships between Academics and IMA Practice Professionals,” at the 2011 Institute of Management Accountants Conference in Orlando. Stout also served as one of four judges in the finalist round of a student case competition, and he was presented a certificate of merit for a paper he co-authored, titled “Initial Public Offerings (IPOs) and the Role of the Management Accountant in the IPO Process,” which will be published in the winter 2011 issue of *Management Accounting Quarterly*.

Gabriel Palmer-Fernandez, director, Dr. James Dale Ethics Center, and professor, Philosophy and Religious Studies, published the article “Using Fictive Narrative to Teach Philosophy/Ethics” in *Teaching Ethics*. The article is co-authored with Michael Boylan (Marymount University), Felicia Nimue Ackerman (Brown University), Sybol Cook Anderson (St. Mary’s College of Maryland), and Edward Spence (Charles Sturt University, Australia).

Ron Shaklee, director, University Scholars & Honors Program, served as co-chair for the 14th Symposium on the Natural History of the Bahamas, held June 16-20 at the Gerace Research Centre on San Salvador Island. As co-chair, Shaklee also serves as co-editor of the symposium proceedings, which are expected to be published in June 2013. Shaklee presented two papers at the symposium, entitled “Physical Landscape Change at San Salvador: 1942-2007” and “Cultural Landscape Change at San Salvador: 1985-2011.”

Steven Schildcrout, professor emeritus, Chemistry, recently published an article titled “Gaseous Cation Chemistry and Chain-Length Effects in Electron Ionization and Collision-Induced Dissociation Mass Spectra of Symmetric 1,*n*-bis(9-anthracenyl)alkanes,” in the *Journal of Mass Spectrometry*. The research was done with the collaboration of John Masnovi of Cleveland State University.

Fred Viehe, professor, History, presented “The 1986 Report of the President's Commission on Organized Crime: A Twenty-five Year Perspective” at the International Conference on New Directions in the Humanities at the University of Granada, Campus La Cartuja, in Granada, Spain. In addition, he presented “The G'hals of New York and Other Cities: A Flourishing Feminine Counterculture in Mid-Nineteenth Century Urban America” at the International Conference on Interdisciplinary Social Sciences held at the University of New Orleans in New Orleans, La. He also accepted the invitation by the Niagara Foundation to take a cultural tour of Turkey and visited Istanbul, Ephesus, Cappadocia and Konya this summer.

Gary Salvner, professor and chair of English, published the article “Outside the Classroom: Celebrating YA Lit at the English Festival” in the Summer 2011 issue of *The ALAN Review*, a national journal focusing on scholarship in young adult literature.

Jozsi Z. Jolics, associate professor of Mathematics and Statistics, together with collaborators at the University of Pittsburgh, published an article titled “Stimulus-driven traveling solutions in continuum neuronal models with a general smooth firing rate function” in the *SIAM Journal on Applied Mathematics*. Jolics presented the work at the 2011 SIAM Conference on Applications of Dynamical Systems in Snowbird, Utah. Jolics also recently published an article titled “Mixed-mode oscillations in a three time-scale system of ODEs motivated by a neuronal model” in *Dynamical Systems* together with Martin Krupa of Radboud University Nijmegen, the Netherlands, and Horacio Rotstein of the New Jersey Institute of Technology.

Brad Shellito, associate professor, Geography, has written a book, *Introduction to Geospatial Technologies*, which was recently published by W.H. Freeman. Designed for use in various introductory GIS or digital earth courses, the book presents the wide range of geographic information systems used by geographers. It has been adopted as a textbook at several universities for this fall semester.

Cameron Hughes, programmer/analyst of Computer Services and a member of YSU's Application Development Group; **Alinza Lazar**, associate professor, CSIS, and YSU alumna **Tracey Hughes**, software engineer of Ctest Laboratories, presented research in the area of Computational Intelligence, titled “Discovering Coherence and Justification Clusters in Digital Transcripts Using Epistemic Analysis,” at the 13th International Conference on Artificial Intelligence and Law at the University of Pittsburgh.

Anwarul Islam, associate professor of Civil & Environmental Engineering, presented a paper titled “Structural Health Monitoring of Bridges Using Wireless Sensor Network” in the PROTECT 2011 workshop in Lugano, Switzerland. Co-authors of the paper include Frank Li, assistant professor of Electrical and Computer Engineering, and electrical engineering student Phaneendra Kolli. The paper was also published in the *Periodical of Applied Mechanics and Materials* in 2011 with the title “Performance, Protection and Strengthening of Structures under Extreme Loading.”

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Corpus Marabile

The new sculpture that hangs from the ceiling of the atrium of Williamson Hall will be dedicated during a ceremony at 5:30 p.m. Thursday, Nov. 10. A panel discussion on "Engaging Communities through the Business of Public Art" will precede the dedication at 4 p.m. The sculpture by artists Gregory Miguel Gomez and Peter Andruchow is titled *Corpus Mirabile*, which is meant as a metaphor for "The Corporation." The sculpture is funded through the Ohio Percent for Art Program, which requires 1 percent of the money appropriated for state construction projects be set aside for art.



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WYSU fall fund drive this week

Youngstown State University's public radio service, WYSU 88.5 FM, will hold its annual fall fund drive Oct. 18 to 21 with a goal of \$115,000.

Everyone who pledges – either as a new member, a renewing member, or with an additional gift – by end of the fall fund drive will be entered into a drawing to win a pair of tickets on a Go Ahead Tours 11-day tour of Vienna, Budapest and Prague. Throughout the drive, the station will also be offering daily prize packages, a new member prize package, and a Pennsylvania member prize package. All prize packages include a new HD radio.



In addition, with support from IDMI.net, all web pledges made this fall through a secure on-line server at www.wysu.org will qualify for a partial match.

“WYSU-FM has not been exempt from funding reductions this past year, and those reductions have already cost us one part-time position and cash support,” said WYSU Director Gary Sexton. “All of our funding sources are shaky these days, except for membership support. We are asking all members to renew their membership or make an additional gift, and we’re asking all listeners to become members at whatever level they can. Together we can keep WYSU fiscally strong.”

Contributions to the station's fall fund drive can be made between now and Oct. 21 by phone at 330-941-1481, or online at www.wysu.org.

For more information, contact Ed Goist at 330-941-3364 or development@wysu.org.

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Free enterprise colloquium speaker addresses “green” business

Andrew Winston, founder of Winston Eco-Strategies, presents “The Greening of Business: Why It’s Unavoidable and How Companies Can Profit From It,” at 7:30 p.m. Thursday, Oct. 20, in Ford Family Recital Hall at the DeYor Performing Arts Center in downtown Youngstown.

The lecture, which is free and open to the public, is part of the Paul J. and Marguerite K. Thomas Colloquium on Free Enterprise. Seating is on a first-come, first-served basis.

Winston, a globally recognized expert on green business, is the author of *Green Recovery*, a strategic plan for using environmental thinking to survive hard economic times. He is also the co-author of *Green to Gold*, the best-selling guide to what works – and what doesn’t – when companies go green.

He appears regularly in major media such as *The Wall Street Journal*, *Time*, *BusinessWeek*, *The New York Times* and CNBC. His clients have included Bank of America, Bayer, HP, Pepsi, Boeing and IKEA. Winston also sits on the Sustainability Advisory Board of the Kimberly-Clark Corp. and the Executive Environmental Advisory Council of Hewlett-Packard.

Winston’s earlier career included advising companies on corporate strategy while at Boston Consulting Group and management positions in strategy and marketing at Time Warner and MTV. He then served as the director of the Corporate Environmental Strategy Project at Yale’s School of Forestry and Environmental Studies.

He writes extensively on green business strategy, including a weekly column for *Harvard Business Online*, regular pieces on the *Huffington Post*, and a monthly strategy eletter, *Eco-Advantage Strategies*. Winston was recently named a “Planet Defender” by Rock the Earth.

He earned a bachelor’s degree in economics from Princeton, an MBA from Columbia, and a Masters of Environmental Management from Yale.



Andrew Winston

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Grants workshop set for Oct. 25 and 26

The Office of Grants and Sponsored Programs is offering a workshop for YSU faculty and staff on grant proposal development.

“How to Transition – from Pre-Award Proposal to Post-Award Funding” is recommended for novices or experienced PIs and project directors. The workshop will be held on two separate days: 10 a.m. Tuesday, Oct. 25, and 10 a.m. Wednesday, Oct. 26. The workshops will be in Coffelt Hall. Seating is limited. To make reservations, call 330-941-2377 or email Cheryl Coy at ckcoy@ysu.edu.