

TODAY'S TOP STORIES

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FLYERS DROP HOME OPENER

Dainius Zubrus scores game-winner as Devils prevail, 6-4.

SPORTS | C1

UBER, LYFT HIT A ROADBLOCK

BUSINESS | A19



DYEING TO BE NATURAL

HOME & DESIGN | D1

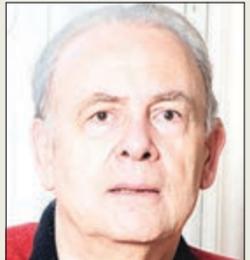
THE VERDICT ON 'THE JUDGE'

WEEKEND | W4

POLITICS

Lofty goals, but little to show

The bipartisan group No Labels confronts reality of congressional gridlock. **A3**



French writer wins le Nobel

Patrick Modiano's novels, often on France's troubled wartime, can be hard to find in the U.S. **A17**

Business	A19
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WEATHER

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AccuWeather report, **C10**

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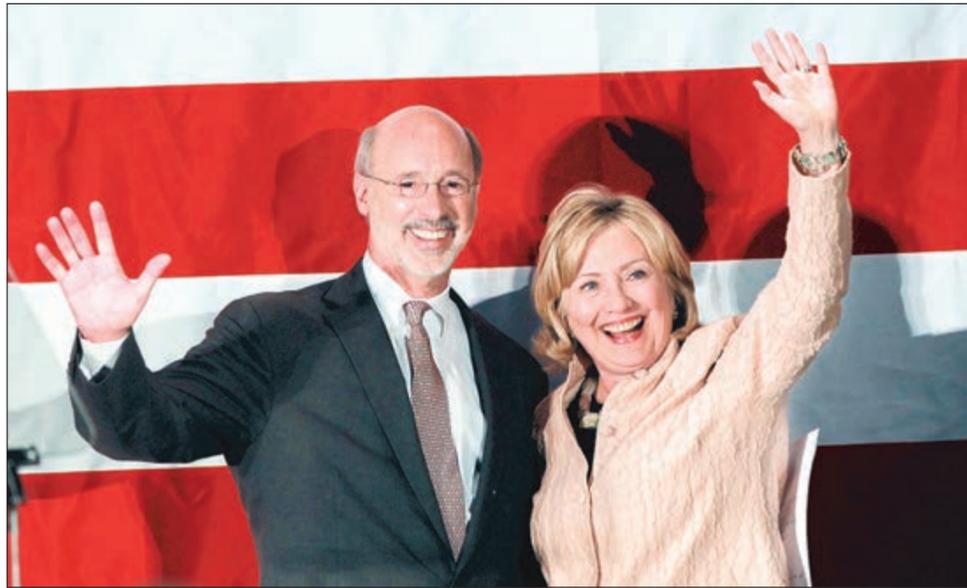
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CAMPAIGN 2014

POWERFUL FRIENDS



Govs. Christie (left), Corbett at Valley Forge Military Academy and College. DAVID M WARREN / Staff Photographer



Tom Wolf and Hillary Rodham Clinton at the National Constitution Center. MICHAEL BRYANT / Staff Photographer

Corbett, Wolf get high-profile visits

By Thomas Fitzgerald and Chris Palmer
INQUIRER STAFF WRITERS

Tom Wolf, the Democratic candidate for governor of Pennsylvania, was still speaking Thursday evening when the politician who only needs one name (like a Brazilian soccer star) stepped from behind a curtain, early.

Earlier, on the Main Line, New Jersey Gov. Christie was the afternoon attraction at a less-raucous rally for the reelection of Gov. Corbett.

With two potential 2016 presidential candidates just 14 miles apart, it was hard not to think beyond the current campaign to the one coming — though both Hillary Rodham Clinton and Christie took pains to focus on the present.

Clinton's remarks at a "Women for Wolf" event were salted with populist references to

See **CAMPAIGN** on A14

Wolf: Replace SRC with elected board

By Thomas Fitzgerald and Robert Moran
INQUIRER STAFF WRITERS

Democrat Tom Wolf said Thursday he would push, if elected governor, to abolish the School Reform Commission and transfer state control of Philadelphia schools to a locally elected school board.

Wolf took exception to the dramatic step the SRC took last week when it canceled its contract with the teachers' union and imposed terms requiring members to pay 10 percent to 13 percent of the cost of their health-care

benefits; currently they pay nothing. "I'm against what [the SRC] did," Wolf said. "What I would do is restore the funding to the Philadelphia school system that would make unpalatable choices like that unnecessary."

Wolf discussed the issue during a 70-minute meeting with members of The Inquirer and Philadelphia Daily News editorial boards. In

See **WOLF** on A14

INSIDE

Voided teachers' pact frees up \$15M to spread among schools. **B1**

Robotics on the water

Villanova team is designing an automated craft that could help in underwater searches.

By Tom Avril
INQUIRER STAFF WRITER

More than seven months after the disappearance of Malaysia Airlines Flight 370, the search for the plane is expected to resume in the Indian Ocean this month with crews trolling 23,000 square miles.

Might the kernel of a better approach be found in a pond in Phoenixville?

That is where Villanova University students are tinkering with a robotic boat,

a two-pontoon craft equipped with a camera, a laser, and other electronics that let the boat locate obstacles and navigate on its own.

The four-foot vessel is a prototype for a 16-foot version that the students and two faculty members will enter this month in a competition in Singapore, along with partners from Florida Atlantic University.

The organizers of the Maritime RobotX Challenge do not mention searching for airline debris in the competition materials. But they say autonomous watercraft could be used for all sorts of tasks where humans need help in such a

See **ROBOTIC BOAT** on A2

More U.S. troops arrive in Africa

They landed in Liberia to help in the Ebola fight. At the World Bank, African leaders pleaded for help.

By Jonathan Paye-layle and Alan Clendenning
ASSOCIATED PRESS

MONROVIA, Liberia — Six U.S. military planes arrived in the Ebola hot zone Thursday with more Marines, as West Africa's leaders pleaded for the world's help in dealing with a crisis that one called "a tragedy unforeseen in modern times."

"Our people are dying," Sierra Leone President Ernest Bai Koroma lamented by videoconference at a World Bank meeting in Washington. He said other countries were not responding fast enough while children are being orphaned and infected doctors and nurses are lost to the disease.

Ebola is "an international threat and deserves an international response," Alpha Conde of Guinea said, speaking through a translator as he sought a wide array of help.

Our people are dying.

Sierra Leone President Ernest Bai Koroma

Tom Frieden, director of the U.S. Centers for Disease Control and Prevention, said he was reminded of the start of the AIDS epidemic.

"We have to work now so this is not the next AIDS," he said.

In Dallas, state health officials said the sheriff's deputy who exhibited symptoms of Ebola tested negative for the disease. Michael Monig was released from a hospital Thursday, a day after complaining of illness.

The fleet of planes that landed outside the Liberian capital of Monrovia consisted of four MV-22 Ospreys and two KC-130s. The 100 additional Marines bring to slightly more than 300 the total number

See **EBOLA** on A12

INTERNATIONAL AID

What is being done to combat Ebola in West Africa:

► The Pentagon has authorized sending up to 3,900 troops to set up clinics and train local staff. The U.S. will spend \$750 million on a six-month mission.

► The European Commission has pledged \$228 million. Australia is donating \$16 million.

► The German military is flying in supplies and is expected to build a clinic for 50 patients in Liberia.

► Britain says it will send more than 750 troops to help build treatment centers and a training center in Sierra Leone.

► The IMF approved \$130 million in emergency aid. The Bill & Melinda Gates Foundation said it would contribute \$50 million.

MUSEUM GROUNDBREAKING | B4



Members of the Fifes and Drums of the Old Barracks Museum from Trenton at a ceremony for the \$119 million Museum of the American Revolution, to open in Center City in 2016. TOM GRALISH / Staff Photographer

BODY WORLDS

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Kim's absence continues to roil

He has been out of the public eye five weeks, even as the anniversary began.

By Sangwon Yoon
BLOOMBERG

If the rumors about Kim Jong Un being ill health — or worse — prove true, the CIA wouldn't be the first to know about it. No spy agency in the world would.

Speculation about the young North Korean dictator's five-week absence from public view has underscored the impossibility of penetrating the totalitarian regime's inner circles, according to former and current officials who have spied on the reclusive nation for the United States and South Korea.

Under the cult of personality that surrounds Kim's family, those around him must demonstrate absolute loyalty, making it almost impossible for intelligence agencies to cultivate human assets for insight. Information-gathering on the nuclear-armed regime instead relies on what can be gleaned from advanced satellite im-

agery or signals intelligence, said the officials, who spoke on condition of anonymity to discuss intelligence sources and methods.

So far, the main public clues have been a report in the rigidly controlled state media that Kim has been suffering "discomfort," and a video of him limping.

State media gave no indication as of 9 a.m. local time that Kim showed up for Friday's anniversary celebration of the founding of the ruling Workers' Party.

He probably didn't visit a Pyongyang mausoleum where the bodies of his father and grandfather lie in state as he had done at midnight the previous two years, South Korea's Yonhap News said, citing a lack of reports from the North.

The United States, South Korea, and even China, which has been North Korea's biggest benefactor, monitor unusual military activity in the country for indications of political instability. U.S. and South Korean defense officials say they haven't seen abnormal or noticeable changes.



J. "Wes" Anderson, a member of the Villanova team, keeps an eye on the boat as it is put through a series of tests. The craft, which carries a camera, laser, and other electronics, is a prototype of a 16-foot version. ED HILLE / Staff Photographer

Villanova project takes robotics on the water

ROBOTIC BOAT from A1 vast environment: tracking oil spills, monitoring fish populations, even watching out for pirates in shipping lanes.

A robotic boat also could serve as a mobile platform for smaller flying robots or submarines, "almost like mini-aircraft carriers," said Daryl Davidson, executive director of the Association for Unmanned Vehicle Systems International (AUUSI) Foundation, a nonprofit outreach group with ties to industry, government, and academia.

"We're just taking people out of the loop in many respects and doing things more effectively, more cheaply, and more safely," Davidson said.

The competition, to take place from Oct. 20 to 26 in Singapore's Marina Bay, requires the 15 entrants to complete five tasks, including detecting and navigating around buoys, docking the boat, and locating an underwater device that emits a ping. In addition to the foundation, organizers include the U.S. Office of Naval Research and Singapore's ministry of defense.

The boats must run on their own, with no remote control, and they get no electronic map of their surroundings in advance. All information about location and obstacles has to be captured by the onboard sensors, said team leader Anderson Lebbad, who is working on a master's degree in mechanical engineering.

"It figures it out as it goes," Lebbad said. "Part of the puzzle."

The faculty adviser from Villanova is C. "Nat" Nataraj, a professor of mechanical engineering who has been working on the challenge of robotic boats for more than a decade.

Similar competitions have been held for driverless cars, using many of the same kinds of cameras and sensors that are being used on the boats.

But unlike pavement, water moves. The interplay of forces between the boat and its uncontained, sloshing environment makes for some difficult math.

"It is what we call a moving boundary problem," Nataraj said.

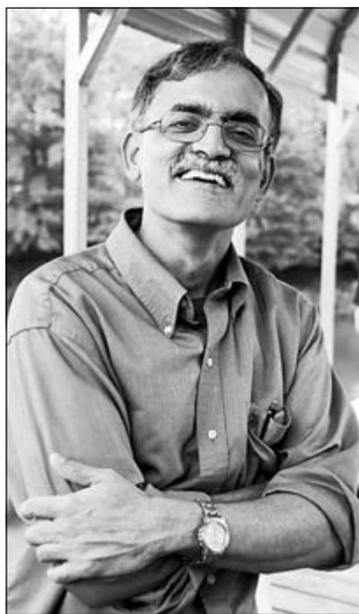
The water in the bay in Singapore is fairly calm. Still, the elements will be an issue. Heavy showers are common there this time of year, which could throw the boats' onboard cameras for a loop. Boats also cannot turn and maneuver as easily as cars.

In one task, the boats must guide themselves between a series of buoys, keeping green ones to the right and red ones to their left. So the cameras must detect the colors, and the software must deliver power to the boats' battery-powered propellers accordingly.

On a sunny day at the pond earlier this month, the four-foot prototype navigated between a series of red



Anderson Lebbad (left) and Ed Zhu monitor the boat's software as Gus Jenkins keeps an eye on the craft during testing.



Professor C. "Nat" Nataraj says a boat poses challenges different from a ground vehicle's. "It is what we call a moving boundary problem," he says.

and green buoys just fine. J. "Wes" Anderson, who is working on his master's degree in mechanical engineering, floated nearby in a kayak in case anything went amiss.

The Villanova portion of the team includes eight students, including undergraduates. Six will make the trek to Singapore, along with Nataraj and Garrett M. Clayton, a Villanova associate professor of mechanical engineering who is an expert on computer vision systems.

The process has not been without setbacks. At one point, the prototype was overcorrecting, turning too far in the opposite direction to compen-

sate for going off-course.

Among other challenges, the software must "fuse" multiple sources of data. For example, an image of a given object captured by the camera must be married to a measurement of its distance from the boat, which is captured by the laser.

The software contains well over a half-million lines of computer code, and it has been through more than 100 updates, Nataraj said. Students tweak the code on the prototype, then periodically travel to Florida Atlantic's Dania Beach campus to try it on the big boat.

The team and two others from the United States were selected from a pool of a dozen U.S. applicants. The remaining 12 teams in the competition were chosen from Japan, South Korea, Singapore, and Australia. All will fight over \$100,000 in prizes.

The cost of the Villanova-Florida Atlantic entry was \$350,000, most of which was raised from sponsors. The practice pond is owned by VideoRay, a robotics company in Pottstown.

The fund-raising and organizational aspects of the project meant the students had to sharpen their entrepreneurial skills.

And while they were at it, why not throw in a dash of the humanities? The team's website contains a quotation from "The Owl and the Pussycat," the Edward Lear poem — appropriate, given that Florida Atlantic's mascot is the owl and Villanova's the wildcat.

It makes for a blunt-sounding acronym, however. The team name is WORX, for Wildcats Owls RobotX.

Said Nataraj: "We may be better engineers than we are linguists."

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Cuban migration to U.S. surges

By Michael Weissenstein
and Christine Armario
ASSOCIATED PRESS

HAVANA — The number of Cubans heading to the United States has increased dramatically since the island lifted travel restrictions last year, eliminating a costly exit visa and making it easier for emigrants to return to the island, new U.S. government figures show.

With greater access to cash and legal travel documents, the vast majority are avoiding the risky journey by raft across the Florida Straits. Instead, most are passing through Mexico or flying straight to the U.S.

More than 22,000 Cubans showed

up on the U.S. borders with Mexico and Canada in the fiscal year that ended last month. That was nearly double the number in 2012 and almost triple the 2011 figure, according to U.S. Customs and Border Patrol.

U.S. officials say that before the recent surge, more than 20,000 Cubans formally migrated to the U.S. every year using visas issued by the U.S. government, while several thousand more entered on tourist visas and stayed.

Changes in Cuban law have made it easier for citizens to legally travel off the island of 11 million people. Reform of property laws now allows Cubans to sell homes and vehicles,

helping would-be emigrants pull together the cash needed to buy airline tickets. As a result, the historic pattern of Cuban migration is shifting, with more making the journey by air and then land rather than by rickety rafts.

The Cuban government is struggling to grow a dysfunctional centrally planned economy after decades of inefficiency and underinvestment.

Cubans arriving at a U.S. border or airport automatically receive permission to stay in the United States under the 1966 Cuban Adjustment Act, which allows them to apply for permanent residency after a year, almost always successfully.