



WISCONSIN LEGISLATURE

P.O. BOX 8952 · MADISON, WI 53708

Joint Testimony in favor of AB-203

Assembly Committee on Government Operations and State Licensing

By: Rep. Fred Kessler & Rep. Chris Taylor

May 29, 2012

On behalf of myself and Representative Fred Kessler, we want to thank Chairman August, and to the Committee for holding this hearing on Assembly Bill 203. We also want to thank Representative Dave Craig for his interest and work on this bill.

This is a bill that garners bi-partisan support because it concerns an issue of importance to both Democrats and Republicans: privacy.

As technology advances, it is imperative that our laws do so as well, balancing the opportunities and advancements that technology affords with basic constitutional protections that we all expect, like the right not to be videotaped in our home without our knowledge or consent or other places where we have an expectation of privacy.

When most people hear the word “drone,” they think of multimillion dollar military machines. But this is not the case, as anyone can purchase a drone at their local hobby store with a video and audio camera on it. The definition of a “drone” used in this bill is “a powered, aerial vehicle that does not carry a human operator, uses aerodynamic vehicle lift and can fly autonomously or be piloted remotely.”

So, for \$35, you can purchase a GoPro drone, fly it into the air, record a person in their own home and put the video up on the internet within minutes. We think this possibility is very unnerving to most people and one of the issues this bill addresses.

That is why drone legislation has already passed in three states: Florida, Idaho and Virginia. Passage of this bill would mean that Wisconsin too is at the forefront of this issue.

This bill would prevent that, making it illegal to use drones to photograph, record or observe people in places, where we all have an expectation of privacy, with certain law enforcement exceptions. This prohibition would also not apply in public spaces like the park, where you have no expectation of privacy.

Secondly, the bill prohibits putting weapons on a drone.

Lastly, this bill balances current constitutional protections with new law enforcement opportunities afforded by drones that could be critical in saving lives or other emergency situations. This bill allows a law enforcement agency to use a drone without a search warrant if it is necessary to do so for certain emergency purposes, including locating an escaped prisoner, aiding in a search and rescue mission, or to prevent imminent harm to a person or the imminent destruction of evidence. In all other instances, this bill maintains current constitutional protections and requires law enforcement to obtain a search warrant to use drones to gather evidence in a criminal investigation.

This bill balances the interests of hobbyists and law enforcement with every person's right to not be taped or recorded in their homes.

Just like legislators 30 years ago couldn't have predicted the need for a law to prevent texting while driving, we are asking you to support this bill to ensure that our privacy laws and rights of our citizens keep pace with advancing technology while utilizing the benefits of this technology in our society.

Thank you for your time today. We urge you all to support this bill.

I'd be happy to answer any questions from the committee.

This copy is for your personal, noncommercial use only. You can order presentation-ready copies for distribution to your colleagues, clients or customers [here](#) or use the "Reprints" tool that appears above any article. [Order a reprint of this article now.](#)

Nicholls 'pioneers' use drones to map coast

By *Katie Urbaszewski*

Staff Writer

Published: Tuesday, May 7, 2013 at 7:45 p.m.

When it comes to surveying and mapping, a Nicholls State University professor says there is nothing more useful than a remote-controlled plane with a camera and other monitoring equipment strapped to it.

That's what the university's Geomatics Department has been using for the past few years, said Professor Balaji Ramachandran, who heads the department. It's a simple concept that allows students to survey an expansive area far quicker than they have before.



Abby Tabor/Staff

Balaji Ramachandran, of the Nicholls State University Geomatics Department, explains how the university's unmanned aerial vehicle works.

Nicholls has used these battery-powered unmanned aircraft, commonly known as drones, to map the shorelines of barrier islands in the past, and there are future projects in the works. Projects planned to begin in the summer and fall include more barrier island mapping, inspecting offshore oil rigs and monitoring bird habitats, Ramachandran said.

Using a drone rather than a pilot is safer and cheaper, he said. The unmanned aircraft industry has so many potential uses that pilots are concerned it will soon replace them, though current laws require researchers and police to hire pilots to train them in flying the drones.

Under the Federal Aviation Administration's rules, commercial industries do not have access to drones, though they will by 2015, said Charles Easterling, CEO of New Orleans-based Crescent Unmanned Systems. His company has been building unmanned aircraft since 2011 and is working out of the NASA Michoud Assembly Facility.

Ramachandran said he plans to buy a Crescent aircraft built like a helicopter to monitor coastal restoration.

Ramachandran said he's looking for grants and other agencies that could pay for such projects. So far, the university has spent about half a million dollars in state and federal grant money on unmanned aircraft projects.

Ramachandran said he would like the program to be more expansive, but after "severe budget cuts, I had to bring the whole thing down. ... I was more tied up with keeping the (geomatics) program alive," he said.

Nicholls is the only agency in the state with a permit to fly unmanned aircraft, FAA records show.

Unmanned aircraft are ideal for coastal areas, Ramachandran said. The university had its drone during the 2010 BP oil spill, but the FAA suspended Nicholls' ability to use it during that time. Looser regulations in the future may allow a drone to be

used to monitor a similar disaster, he said.

"Right after a disaster, this will be an ideal way to get imaging," he said.

The U.S. Army Corps of Engineers has shown an interest in collaborating with Ramachandran and his research, he said.

"What they're doing is really great," Easterling said of Nicholls' program. "We consider them to be pioneers and experts in an industry and research field that's going to be very large in the coming years."

Nicholls' drones are not to be confused with the U.S. Department of Defense's drones, or unmanned combat air vehicles. Research drones do not have weapons onboard like combat drones.

Still, the FAA's expansion of drones has caused privacy advocates like the American Civil Liberties Union to caution the FAA to restrict the aircraft's use. However, the ACLU specifically lists "geological inspections and environmental surveys" as examples of ways in which "privacy will not be substantially affected," according to a report published a year and a half ago.

Besides, Ramachandran said, the surveying Nicholls is doing "is possible today with a manned aircraft."

Staff Writer Katie Urbaszewski can be reached at 448-7617 or katie.urbaszewski@dailycomet.com.

Copyright © 2013 DailyComet.com — All rights reserved. Restricted use only.

SCIENTIFIC AMERICAN™

Permanent Address: <http://www.scientificamerican.com/podcast/episode.cfm?id=drones-accelerate-archaeological-si-12-12-31>

Drones Accelerate Archaeological Site Mapping

A drone aircraft can acquire in minutes data for a 3-D map of an archaeological site that would have taken humans years to gather. Cynthia Graber reports

| Monday, December 31, 2012 | 3 comments

Archaeology's taking to the air. Researchers spent a month this summer testing a semi-autonomous unmanned aerial vehicle—basically a semi-autonomous drone—high in the Andes in Peru. The goal: to scan a colonial town from the 1500s that had been built over an Incan settlement, and then abandoned.

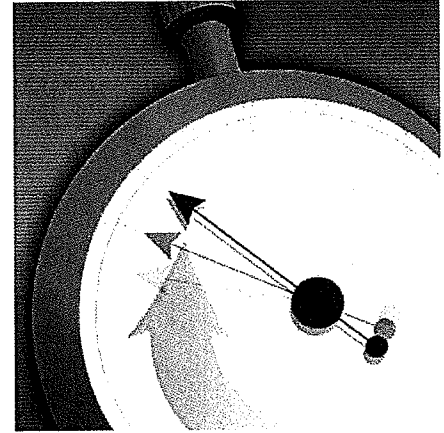
It's a collaboration between Vanderbilt University archaeologist Steven Wernke and engineering professor Julie Adams. Adams tricked out a vehicle from Aurora Flight Sciences to include cameras and algorithms that allow the drone to achieve optimal flight patterns. The resulting detailed 3-D map will be much more precise than high-resolution satellite images.

Here's Steven Wernke: "By our calculations this vehicle will be able to take imagery of an area in about 10-15 minutes that would take two or three entire field seasons using traditional methods."

The system can fit into a backpack. Once the researchers incorporate what they learned, they hope the technology can assist in the rapid cataloguing of a variety of archaeological sites, some of which are already being lost to the ravages of new developments and time.

—Cynthia Graber

[The above text is a transcript of this podcast.]



Pin it

Image:

ADVERTISEMENT

SCIENTIFIC AMERICAN Travel

To see our upcoming destinations

[CLICK HERE](#)

Subscribe Today

Save 66% off the cover price and get a free gift!

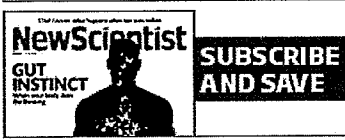
[Learn More >>](#)

Email Address

Name

Cookies on the New Scientist website

close
 Our website uses cookies, which are small text files that are widely used in order to make websites work more effectively. To continue using our website and consent to the use of cookies, click away from this box or click 'Close'
 Find out about our cookies and how to change them

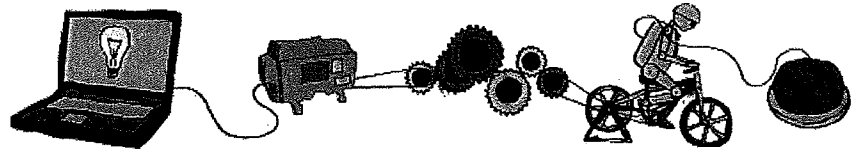


search New Scientist

- Home News In-Depth Articles Blogs Opinion TV Galleries Topic Guides Last Word Subscribe Dating [Look for Science Jobs](#)
- SPACE TECH ENVIRONMENT HEALTH LIFE PHYSICS&MATH SCIENCE IN SOCIETY [Cookies & Privacy](#)

One Per Cent

Taking the sweat out of technology

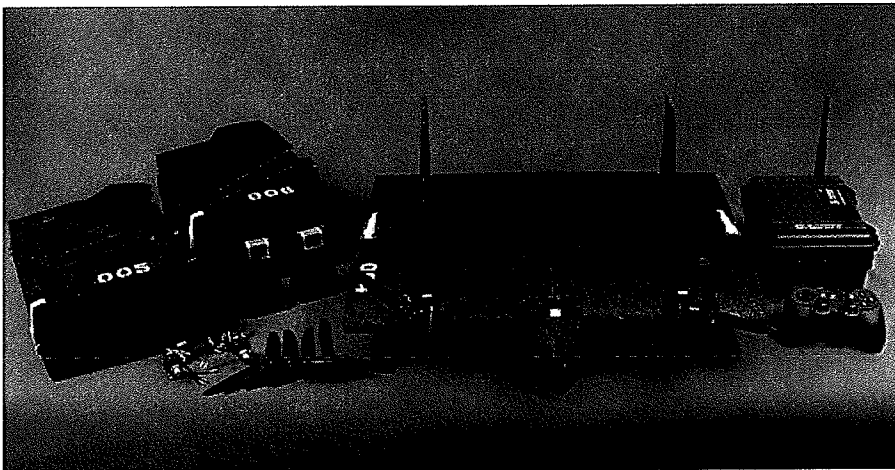


Drones map ancient Peruvian ruins

21:45 3 August 2012

[Aerospace](#) [Lasers](#) [Maps](#)

Hal Hodson, technology reporter



(Image: Aurora Flight Sciences)

For the past month, a lunch-tray-sized aircraft has been skimming over Peruvian ruins snapping high-definition photos which are then stitched together to build a 3D map of the site.

The flyer is the brainchild of Steven Wernke and Julie Adams, archaeologist and roboticist respectively at Vanderbilt University in Tennessee. Wernke says that the craft will speed up site mapping drastically compared to traditional methods - a fiddly medley of theodolites, measuring tapes and photography which often requires repeat visits over two or three years during the dry season.

The Vanderbilt team is currently mapping the Peruvian ruins of Mawchu Llacta, an Inca settlement that was mysteriously abandoned in the 19th century. They plan to return next year to work out any kinks that crop up in the lab once they are back in Tennessee.

The flyer itself is a model from Aurora Flight Sciences called the Skate, kitted out with cameras and connected to a flight software system that determines the best flight pattern in an area to be scanned, then lets the craft go to work without operator assistance. The whole setup fits in a backpack.

Although the drone will be mapping the site in 3D to a level of detail which Wernke says is better than "even the best satellite imagery", it won't be mapping the interior of the ruins.

Our other blogs

- [Short Sharp Science](#)
- [One Per Cent](#)
- [New Scientist TV](#)
- [CultureLab](#)
- [Big Wide World](#)

Bookmark&share



Categories

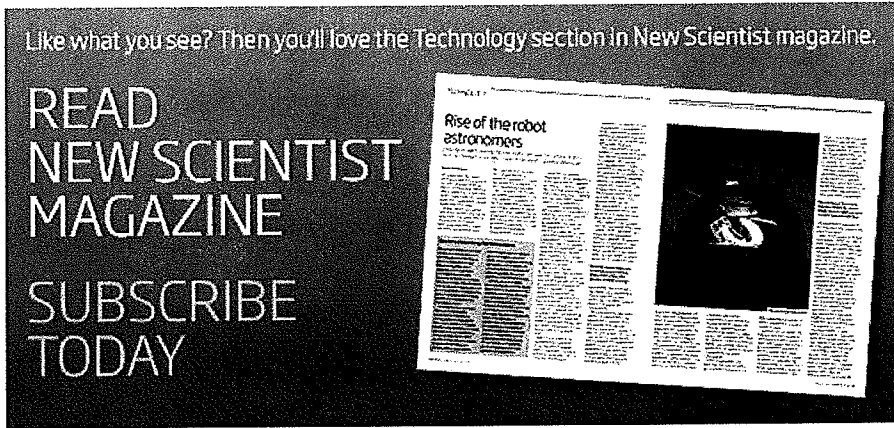
- [3D printing](#)
- [AI](#)
- [Aerospace](#)
- [Apple](#)
- [Apps](#)
- [Art](#)
- [Augmented reality](#)
- [Biometrics](#)
- [Cars](#)
- [Cloud](#)
- [Computing](#)
- [Crime](#)
- [Crowdsourcing](#)
- [Cybersecurity](#)
- [Design](#)

To that end, Nadir Bagaveyev, a design engineer at XCOR Aerospace in Mojave, California recently completed a successful Kickstarter campaign to raise funds to build a cheap laser radar (LiDAR) capable of being integrated into any robotics project and returning reliable three-dimensional spatial coordinates.

More expensive LiDARs work by measuring the length of time it takes a laser signal to complete a round trip between the point of measurement and surrounding features, calculating distances by multiplying the measured time by the speed of light. Bagaveyev is planning to make his system cheaper by doing away with the high precision timing equipment, and instead measuring the angles and distances between laser spots that reflect off the drone's surroundings, calculating a distance using trigonometry.



tags archaeology drone laser mapping satellite UAV



4 Comments

All comments should respect the New Scientist House Rules. If you think a particular comment breaks these rules then please let us know, quoting the comment in question.

Dutchcon on August 4, 2012 6:46 PM

> an Inca settlement that was mysteriously abandoned in the 19th century.

I am pretty sure the Inca's didn't stick around THAT long.

Rodney on August 5, 2012 2:32 AM

Trouble with using laser grid trig, is that this is the method that Microsoft use for Kinect, and so Microsoft would claim patents, and licensing rights?

Dick Bird on August 6, 2012 1:39 AM

19th century Incas?

drg40 on August 30, 2012 12:22 PM

Wasn't the Inca civilisation from about the 12thC AD until wiped out by the Spanish in the 16thC AD?

If they did a runner in the 19thC it's perhaps because the few native South Americans left

- Drone
- Energy
- Engineering
- Entertainment
- Environment
- Facebook
- Games
- Gaming
- Google
- Green Machine
- Green tech
- Hacking
- Healthcare
- Hologram
- Internet
- Japan
- Kindle
- Kinect
- Lasers
- Law
- Leap Motion
- Maps
- Materials
- Medical
- Military
- Movies
- Music
- Nanotech
- Navigation
- Patents
- Politics
- RFID
- Robots
- Safety
- Sailing
- Smart watches
- Smartphone
- Social network
- Solar power
- Sony
- Space
- Sport
- Technology
- Touchscreen
- Toys
- Train
- Twitter
- Video
- Wii
- design

