

Worldwide press room opens for major acoustical science and technology conference, Nov. 15-19

EurekAlert

November 8, 2010 -- The 2nd Pan-American/Iberian Meeting on Acoustics -- a major international acoustics conference -- convenes next week at the Fiesta Americana Grand Coral Beach Hotel in Cancun, Mexico. Reporters are invited to visit the ASA World Wide Press Room: <http://www.acoustics.org/press> [1]

The press room contains news releases and dozens of lay-language papers selected from among the more than a thousand presentations at the meeting, which takes place from November 15-19, 2010. Lay-language papers are summaries of research written for a general audience by the authors of individual presentations and accompanied by graphics and multimedia files. They draw from scientific disciplines as diverse as psychology, physics, animal bioacoustics, medicine, music, noise control, and speech. An index of all the lay-language papers on the ASA World Wide Press Room can be found at: http://www.acoustics.org/press/160th/lay_lang.html [2]

Notable lay-language papers include:

UNDERWATER BEACON FOR FLEETS OF SUBMERSIBLES

"With the increased use of underwater robotics in both Navy and commercial applications, underwater navigation is becoming more and more important. As we attempt to make these vehicles smaller and less expensive, simple systems for navigating multiple vehicles become important. Weve developed and tested an underwater navigation system that uses a spiral shaped acoustic wave to determine aspect. The biggest advantage of our system over more traditional baseline techniques is simplicity. A single stationary beacon can be used to navigate any number of remote underwater vehicles. With future visions of swarms of underwater vehicles, this can be a huge advantage."

Read more: <http://www.acoustics.org/press/160th/dzikowicz.html> [3]

IN COURT, HOW RELIABLE ARE EAR WITNESS TESTIMONIES?

"In some criminal trials judges do not agree with requests from the defence lawyers that ear-witness evidence may be so error prone that such evidence should not be allowed to form part of the prosecution case. Instead, they sometimes allow an Expert Witness (such as myself) to testify (e.g. inform the jury) (i) about research findings on the general reliability of ear-witnessing (such as that mentioned above) and (ii) on factors directly relevant to the ear-witness evidence being presented in that particular trial. Regarding the latter I have, for example, conducted experiments for and testified in a number of trials."

Read it: <http://www.acoustics.org/press/160th/bull.html> [4]

TWO EARS NOT NEEDED TO HEAR DISTANCE

"The main result of the study is that listeners did not need two ears to evaluate the sound source distance in our experiments: binaural and diotic signals led to the same perceived distance for stationary signals such as noise. Distance perception was not disrupted for sounds identical at the two ears; it was monaural and based on room colouration."

Read more: <http://www.acoustics.org/press/160th/lavandier.html> [5]

ACOUSTIC OBSERVATIONS OF DEEPWATER HORIZON OIL SPILL

"By mid-May, observations of underwater oil plumes were reported, and later that month we embarked on the first of many cruises onboard NOAA research ships with the principal aim to use scientific echo sounders (i.e. sonars) to map subsurface gas and oil near the wellhead. Over the next few months, we used these echo sounders to map the many natural methane gas seeps in the area, to directly observe the oil in the top few hundred meters of the water column, to examine some of the local effects of the oil plume on marine organisms throughout the water column, and finally to monitor the integrity of the well after it was capped in mid-July."

Read more: <http://www.acoustics.org/press/160th/weber.htm> [6]

THE SOUND OF A GUITAR

"What can a guitar player do to change the sound of his/her guitar? What parameters or playing techniques does he/she have at his/her disposal to make special sound effects? How is performance technique related to changes in sound while playing the guitar? This paper presents a review of the literature regarding how different ways of plucking the string result in a different sound."

Read more: <http://www.acoustics.org/press/160th/carral.html> [7]

IMAGING SYSTEM FOR ULTRASOUND DRUG DELIVERY

"Although ultrasound imaging is probably best known for its diagnostic capabilities in echocardiography and prenatal care, ultrasonic waves can also be used for therapy by focusing an acoustic beam through the skin and into the body. An exciting application for focused ultrasound is localized delivery of drugs within the body. [Our] tracked imaging system can determine the ultrasound properties required for treatment so the ultrasound beam can be controlled to successfully activate drugs for tumor therapy."

Read more: <http://www.acoustics.org/press/160th/caskey.html> [8]

BUGS COMMUNICATE THROUGH PLANTS

"*Nezara viridula* and other until now investigated species of the stink bug family *Pentatomidae* represent the model for optimizing long-range communication through green plants. They communicate with vibratory signals of the dominant frequency around 100 Hz, which travel through plants with low attenuation, creating standing wave conditions in the plants rod-like structures. Green plants act as low-pass filter, and their resonant peaks fit well with the spectral peaks of stink bug

vibratory emissions. The species leg sensory organs and their underlying neural network are sensitive enough to enable communication through a plant on a distance of several meters."

Read more: <http://www.acoustics.org/press/160th/cokl.html> [9]

LISTENING TO THE OCEAN'S DEEPEST TRENCHES

"To probe these extreme regions, we have developed Deep Sound, an untethered instrument platform with the capability of descending to (and returning from) the bottom of the oceans deepest trenches. We plan to deploy the new system to a depth of almost 11,000 meters, to the bottom of the Challenger Deep. If successful, it will return with continuous acoustic and environmental recordings taken from the surface to the bottom of the deepest known part of the Earths oceans."

Read more: <http://www.acoustics.org/press/160th/barclay.html> [10]

ENDANGERED TIGER'S CALL FOR HELP

"Tigers, one of four species of big cats that belong to the genus known as *Panthera*, are seriously endangered in the wild. The call that we are going to talk about at the upcoming meeting goes by a variety of names. Some call it a moan, others call it an intense mew, and still others think of the call as a territorial roar. We prefer the more generic term, long-distance advertisement call, because its ethological meaning is not well understood. Our ultimate interest in the long distance call has less to do with understanding its biological significance, although that is of clear importance, and more to do with its utility as a conservation tool, as we will explain in the presentation."

Read more: <http://www.acoustics.org/press/160th/walsh.htm> [11]

COOKSTOVES FOR POOR COUNTRIES

"Recent research has shown that fan-enhanced convection in the biomass combustion chamber makes the most significant reduction in the products of incomplete combustion that degrades indoor air quality. Unfortunately, over half of the stove users live in areas with no electrical services that could be used to power a fan that requires as little as one watt of electrical power for operation. The purpose of the research we are reporting was to use a small amount of waste heat from such a stove to generate electricity ..."

Read more: <http://www.acoustics.org/press/160th/montgomery.html> [12]

HARMONICA-LIKE INSTRUMENTS IN ASIA

"Free reed instruments were widespread in Southeast and East Asia for long before the 'modern' Western free reed instruments, including the harmonica and the accordion-concertina 'squeezebox' family, were developed in Europe starting about two hundred years ago. In the last 20 years there has been considerable interest in the acoustics of free reed instruments, including the Asian free reed mouth organs. This paper deals with two of the very simplest instruments of this type: the enggung of Bali, a single free reed without pipe-resonator, and the free reed buffalo horn, in which a single free reed is mounted in the side of the animal horn."

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Published on Electronic Component News (<http://www.ecnmag.com>)

Read more: <http://www.acoustics.org/press/160th/cottingham.html> [13]

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Source URL (retrieved on 03/27/2015 - 9:29pm):

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