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# microBYTES™

*A Hardy Diagnostics eNewsletter*



December, 2013

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New Year's Activity...

## Stock Up on Control Organisms

At the beginning of the new year is a good time to refresh your stock organisms. Mutations can be avoided by replenishing your stock organisms on a regular schedule.

Hardy is an authorized dealer for hundreds of MBL control organisms. Whether you prefer the pellet or swab form, Hardy has it!



The Kwik-Stik is the ultimate in ease of

*Micro Musings...*

© Randy Glasbergen  
glasbergen.com



**"This prescription doesn't cure anything, but it has fewer side effects than other drugs."**

## Petri Plate Art

Klari Reis, a San Francisco based artist and former architect, creates some fantastic art using brightly colored plastics in Petri dishes. After donning a mask and a bio-hazard suit, she heats up epoxy polymers, and adds color to

regenerating your stock organisms.

Need a quantitative preparation for growth promotion studies? Hardy has it. See EZ-Accu Shot.



[View](#) the 42 page Microorganism Catalog now.

[Request](#) the paper version.

\* \* \*

## Brain teasers



Need to exercise  
the muscle between your ears?

[Try this...](#)

For your HACCP program...

## SystemSure Plus for ATP hygiene monitoring



it using powders and industrial dyes. Once the plastic is a syrupy consistency, she applies between three and five layers within a Petri dish. Klari's designs call to mind cultures of bacteria and fungi growing in Petri dishes.





SystemSure is the easy and economical way to check your surface cleaning for your hygiene monitoring program. Get results in only 15 seconds!

See the catalog listing.

See the complete brochure.

Request more information on hygiene monitoring.

\* \* \*

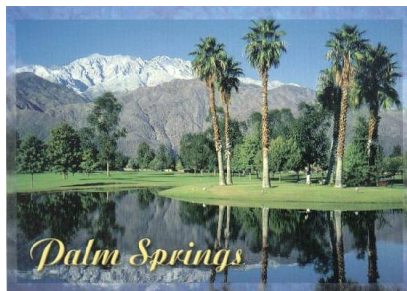
*Spend a day with Dr.  
Schreckenberger in  
beautiful Palm Springs.*



Our next Hardy Seminar will feature Paul Schreckenberger, PhD, who will be addressing the following topics:

1. Update on Enterobacteriaceae
2. Update on Non-fermentors
3. Carbapenem Resistance
4. Gram Positive Bacteria in UTI's

The venue will be warm and sunny Palm Springs, California!



More information and registration form.

\* \* \*



See more of Klari's artwork at her blog where she has posted one Petri plate creation for every day of 2013.

See even more...



Klari Reis at work creating her amazing Petri art.

\* \* \*

*Optical oddities...*

## First New TB Drug to be Released in 40 Years



Sirturo, a drug for resistant TB, is the first to be approved in over 40 years. Janssen Therapeutics gained FDA clearance for this oral drug about a year ago.

When it comes to infectious disease, tuberculosis is the second biggest killer. TB is rare in the U.S., but kills about 1.4 million people each year worldwide, with about 150,000 of those succumbing to the increasingly common multi-drug resistant forms, known as MDR-TB.

Sirturo is approved only for use with pulmonary manifestations of MDR-TB. The generic name for Sirturo is Bedaquiline, which is a diarylquinoline. It inhibits ATP synthase, an enzyme used by mycobacteria in the generation of energy for the organism.

MDR TB is a form of drug-resistant TB in which TB bacteria can no longer be killed by at least the two most commonly used antibiotics, isoniazid (INH) and rifampin (RIF). As a result, this form of the disease is more difficult to treat than ordinary TB and requires up to two years of multi-drug treatment.



The FDA requires a "black box" warning to be included with Sirturo's labeling, since cases of cardiac arrhythmia have

YOU ARE  
CLOSE

When you are close to your monitor it says  
"you are close."

What does it say when you view  
from about six feet away?

*"Believe half of what you see  
and none of what you hear."*  
~ Marvin Gaye ~

*Dragon fly wings provide the idea...*

## Spiking Biocides Impale Bacteria



A new synthetic material, known as black silicon, contains numerous needle-like projections that effectively kill bacteria by slicing through their cell walls.

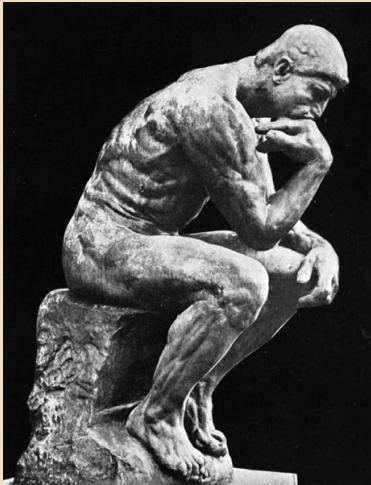
Researchers from the Swinburne University of

been reported, along with an increased risk of death.

More information.

\* \* \*

## Think about it...



\* If raising children was going to be easy, it never would have started with something called labor!

\* Brain cells come and brain cells go, but fat cells live forever

\* What is the speed of dark?

\* When you're sending someone Styrofoam, what do you pack it in?

\* Why are there Braille signs on drive-up ATM's?

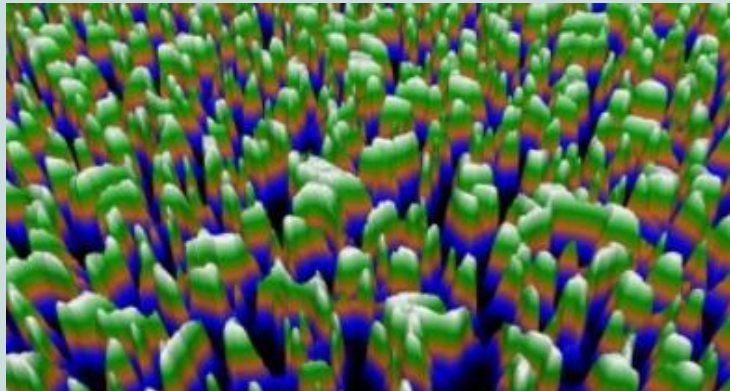
\* \* \*

*A bleeding glacier?*

## Mystery of the Blood Falls Solved

Technology in Australia have shown that bacteria can be killed by using certain surface textures (nanostructures) rather than biochemical means.

Oddly enough, dragon flies have similar nanostructures on their wings that are responsible for the rupture of bacterial cells. These "nanopillars" have been shown to cause significant deformation of the cell walls of *P. aeruginosa*, *Staphylococcus aureus*, and *Bacillus subtilis*, and even killed *B. subtilis* spores. They provided potent bactericidal activity against not only Gram-negative bacteria but also against the more rigid and lysis-resistant Gram-positive bacteria and their spores.



*Diplacodes bipunctata* dragonfly wings are covered by nanoscale pillars, which exhibit strong antibacterial activity, based on their ability to puncture the cell wall.

It turns out that man-made black silicon has a similar nano texture and exhibits similar antibacterial properties.

"This represents an exciting prospect for the development of a new generation of antibacterial nanomaterials that could be applied to the surfaces of medical implants, making them far safer," states the lead investigator Russell Crawford.

Could this dragon fly wing-like structure solve the problem of dangerous bio-films forming on medical device implants and prostheses? More research is on the way in this exciting and innovative new field.

\* \* \* \* \*





When the Blood Falls of the Taylor Glacier of Antarctica was discovered in 1911, the red color was thought to be due to a bloom of red algae.

After researchers from Dartmouth College studied the "bleeding glacier," they discovered that the red color leaking from the base of the glacier is due to iron oxides that emanate from a briny pool located deep beneath the ice.



Perhaps more amazing is that bacteria were found in this underground pool that can exist in a completely dark environment of no oxygen, high salinity, and very low temperatures. These anaerobes can utilize sulfur compounds and ferric ions as an energy source for carbon fixation and cellular maintenance; among them are *Thiomicrospira* spp., and *Desulfocapsa* spp. An explanation may be that the microbes use sulfate as a catalyst to respire with ferric ions and metabolize the trace levels of organic matter trapped with them. Such a metabolic

Two methods for the easy identification of Gram negative enteric bacteria.

## Enteropluri



[See the catalog listing.](#)

## Microgen



[See the catalog listing.](#)

*PYR Testing Made Easy!*

process had never before been observed in nature.



"When I started running the chemical analysis on it, there was no oxygen," the lead scientist Jill Mikucki said. "That was when this got really interesting; it was a real 'eureka' moment."

\* \* \* \* \*

*Wisdom to ponder...*



**Nelson Mandela**

**1918 ~ 2013**

*After 27 years in prison, Mandela became the President of South Africa and helped to dismantle the practice of apartheid*

"Education is the most powerful weapon which you can use to change the world."

"I learned that courage was not the absence of fear, but the triumph over it. The brave man is not he who does not feel afraid, but he who conquers that fear."

"A good head and a good heart are always a formidable combination."



*For the identification of Group A Strep and Enterococcus. Rapid, clear read-out.*

[See the catalog listing.](#)

*View the survey results...*

## Are "Right to Work" Laws Desirable?



The state of Michigan joined the 24 other "right-to-work" states in March of 2013 (pictured in green above). The law makes it illegal to require an employee's membership, payment of union dues, or fees as a condition of employment, either before or after hiring. This law applies to both private and government jobs.

The intent is to promote the creation of more jobs and reduce unemployment, supporters say. Detractors claim that in the long run some employees will be harmed and lose their ability to collectively bargain for better wages and working conditions.



"If you want to make peace with your enemy, you have to work with your enemy. Then he becomes your partner."

"There is no passion to be found playing small - in settling for a life that is less than the one you are capable of living."

"After climbing a great hill, one only finds that there are many more hills to climb."

"There can be no keener revelation of a society's soul than the way in which it treats its children."

"I detest racism, because I regard it as a barbaric thing, whether it comes from a black man or a white man."

"Money won't create success, the freedom to make it will."

"I was not a messiah, but an ordinary man who had become a leader because of extraordinary circumstances."

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*Did you know?*

What did the MicroBytes Readers have to say about this?

## RUBES



[Find more](#)

of Leigh Rubin's cartoon humor.

## The American Hyphen Society



The American Hyphen Society is a community-based, not-for-profit, grass-roots consciousness-raising/education-research alliance that





seeks to help effectuate the across-the-board self-empowerment of wide-ranging culture-, nationality-, ethnicity-, creed-, gender-, and sexual-orientation defined identity groups by excising all multiculturally-less-than-sensitive terminology from the English language, and replacing it with counter-hegemonic, cruelty-, gender-, bias-, and, if necessary, content-free speech.

The society's motto is "*It became necessary to destroy the language in order to save it*".

The headquarters are in Wilkes-Barre, Pennsylvania.

\* \* \*

## Hardy Diagnostics...

- Manufactures over 3,500 microbiology products for you to choose from.
- Stocks over 13,000 laboratory products to increase your selection.
- Is celebrating its 33rd year of serving microbiologists.
- Maintains eight distribution centers in the U.S. for faster turn around time to your lab.
- Is ISO 13485 certified for the manufacture of medical devices to give you confidence in our products.
- Offers you its technical manual, HUGO, which contains over 4,500 pages of information regarding microbiology.
- Services over 9,000 labs and maintains a worldwide network of over 40 distributors.

View a [Corporate Profile](#).

See the [Company Video](#).

Send a [message to the president](#).



To form an anagram,  
you just rearrange the letters  
of a word or phrase,  
such as...

**Dormitory**  
Dirty Room

**The Morse Code**  
Here Come Dots

**Slot Machines**  
Cash Lost in 'em

**Animosity**  
Is No Amity

**Mother-in-law**



So, another day just  
went by in which  
I did not use calculus.

\* \* \*

Woman Hitler

## Snooze Alarms

Alas! No More Z's

## A Decimal Point

I'm a Dot in Place

## The Earthquakes

That Queer Shake

## Eleven plus two

Twelve plus one

## Astronomers

Moon Starers

\* \* \*

## *Online Ordering Made Easy!*



Watch a short video  
to learn how easy it is  
to order from Hardy on-line!

*Pick. Click. You're Done!*

\* \* \*