



NMSR Reports

The Newsletter of the
New Mexicans for Science and Reason

NMSR Reports, David E. Thomas, Editor, 801 Fitch Ave., Socorro, NM 87801 © 2018

**APRIL MEETING:
NEW MEXICANS FOR SCIENCE
AND REASON WILL HEAR
Susan Gerbic
on "Guerrilla Skepticism on
Wikipedia (GSoW): It's About
Time"**

7:00 PM April 11th, 2018

**==>CNM MAIN CAMPUS,
Student Resource Center<==**

==>Room 204<==

Bring a friend!

She received the James Randi award in 2017 and became a Fellow for Committee for Skeptical Inquiry in 2018. While her particular focus has been "Grief Vampires" (psychics), her activism encompasses all areas of skepticism.

You supported the March for Science. Now what? Susan Gerbic will be explaining why the answer is to join her project, Guerrilla Skepticism on Wikipedia (GSoW). She will explain why improving the pages for Science and Scientific Skepticism on the 10th most popular website improves education world-wide. GSoW works to support the people and organizations that do the research, write the books, organize the conferences and take the heat from the anti-science and paranormal world. GSoW gives them the best possible Wikipedia pages possible, while following all the rules of Wikipedia. The GSoW has had a large impact on education around the world since 2010. The GSoW has written and rewritten hundreds of Wikipedia pages, including Spontaneous Human Combustion, Facilitated Communication, Perry DeAngelis, Thomas Bopp, Seth Andrews, Jerry Coyne, Matt Dillahunty, Mary Roach and many more.

FUTURE MEETINGS ANNOUNCED

April 11th, 2018 NMSR Meeting: Susan Gerbic, on "Guerrilla Skepticism on Wikipedia (GSoW): It's About Time"

Gerbic is a skeptical activist, investigator, mentor, conference speaker, and writer, co-founder of Monterey County Skeptics, Skeptical Inquirer contributor, and a recurring contributor to the Skepticity podcast.



May 16th, 2018: Lee Skinner & colleagues, on "Exploration in New Mexico's Fort Stanton Cave and Snowy River Passage"

Fort Stanton Cave is located in the south-central part of New Mexico in Lincoln County, between the villages of Lincoln and Capitan. The Snowy River Passage, discovered in 2001, is now thought to have the longest cave formation in the world.



June 13th, 2018: Dave Straub on "Building Models of Historic Structures"

New Mexicans for Science & Reason (NMSR)

NMSR is a non-profit group with the goals of promoting science, the scientific method, rational thinking, and critical examination of dubious or extraordinary claims. NMSR meets at 7 PM on the second Wednesday of each month, in Albuquerque, New Mexico, at CNM's Student Resource Center, room 204 (@ Richard Barr Boardroom). NMSR Reports is its official newsletter.

NMSR officers:

Dave Thomas, President

801 Fitch Ave., Socorro, NM 87801

nmsrdave@swcp.com

John Covan, Vice-President

jmcovan@juno.com

Debbie Thomas, Treasurer

3205 Alcazar NE, Albuquerque, NM 87110

abqdebbie@comcast.net

Eddy Jacobs, Resident Neutron Generator

eddyjacobs88@gmail.com

Mark Fraser CNM Sponsor

ippon@earthlink.net

John Geohegan, Past President

jgeoh@swcp.com

Kim Johnson, Industrial Physicist

kimber@comcast.net

Marilyn Savitt-Kring, Science Mom

Membership: \$25/year (hardcopy newsletter), or \$15/year (downloadable PDF), make your check payable to NMSR, send to treasurer (Debbie Thomas).

NMSR Advisors:

- **Mark Boslough**,
Physicist (Impacts, Climate Change,
Global Warming). Sandia National Labs.
- **Kendrick Frazier**
Editor, Skeptical Inquirer
- **John Geissman**
Professor of Paleomagnetism, UNM
- **Alan Hale**
Southwest Institute for Space Research
- **Randy Thornhill**
Professor of Biology, UNM

Cyber-Cypher Clue: $W = V$, $V = K$.

Bonus Puzzle Clue: Solve for T_1 , when Fastman meets the train at the end of leg 1. Solve for T_2 (time at end of 2nd leg) using what you learned about T_1 . Set $(T_2 - T_1)/T_1 = 1/4$.

WANTED: READER ARTICLES & COMMENTARY

Got something to share with NMSR members? Send it in! ATTN: Dave Thomas, Editor, NMSR Reports.

REMEMBER, our next NMSR meeting is at 7 PM on **WEDS., APRIL 11th, 2018**, at Student Resource Center, room 204 at CNM!

PUZZLE TIME!

[Please send solutions to Dave Thomas at: nmsrdave@swcp.com, or at 801 Fitch Ave., Socorro NM 87801.]

Cyber-Cypher: APRIL PUZZLE

(Submitted by Dave Thomas)

The following letters are a simple substitution cypher. If R stands for L, L will stand for R everywhere. Your Cyber-Cypher Clue: Clue? Oh, well - if you must, see p. 2.

" D I F Z H B O R N G I Z R S X
P F O Y B O Z S R I B O T . P I
P B G D I I Z V Z S Y Z R S E N Z
P F O Y P I I M A P B F E S W I E
R P I X S S R S X B O R N G I Z R
Y P S A B N O I G P F C
F E E F R B R F S Z . " - - E S H I E
L I Z E S O I , S Z O R I L P I Z
P B Y V F Z H

SUPER SECRET WORD!

However you prefer to do the cypher itself (above or below), simply duplicate those actions on the alphabetized row of cypher letters below. You'll build an answer key, and you'll also reveal - the Super Secret Word!

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

MARCH CYPHER SOLUTION

"I AM JUST A CHILD WHO HAS NEVER GROWN UP. I STILL KEEP ASKING THESE 'HOW' AND 'WHY' QUESTIONS. OCCASIONALLY, I FIND AN ANSWER."
STEPHEN HAWKING

Esteemed March Code Crackers: Mike Arms*, George Egert*, Austin Moede* and Terry Lauritsen*.

*Secret Word: "SKY WATCHING JUMPER"

SOCORRO STUMPER

Need more Secret Word Cryptograms?

New puzzles every week at

www.nmsr.org/SocorroStumper.htm

April Bonus: “Run, Fastman, Run”

Submitted by Dave Thomas

Two trains are approaching each other on adjacent tracks, and each is moving at 60 mph with respect to the ground. The world’s fastest man, Fastman, departs from train #1 when the two trains are 120 miles apart. When he gets to train #2, Fastman turns around instantly, and heads back toward train #1, then turns again and heads back to train #2, and so forth. This continues until the two trains meet, at which time Fastman stops.

Fastman is running faster (constant speed w) than the trains (constant speed $v=60\text{mph}$). How fast? Your big clue is that the length of each leg in Fastman’s back-and-forth run is one quarter the length of the preceding leg.

The April Bonus: How far does Fastman run altogether?

The March Bonus: “Chicken Futures”

Submitted by Dave Thomas

At the sprawling Wally World store, the deli prices for about equal numbers of chicken legs, thighs, breasts and wings are:

| | |
|------------|---------|
| 8 pieces | \$5.98 |
| 16 pieces | \$10.98 |
| 50 pieces | \$54.00 |
| 100 pieces | \$75.00 |

The March Bonus: You are in charge of getting fried chicken for the big party, and you have a budget of \$100. Chicken is tax-free, by the way.

What is the largest number of pieces you can purchase at Wally World?

ANSWER: 9 sets of 16 pieces, \$98.82 for 144 pieces

Congrats: Earl Dombroski, Rocky S. Stone, Keith Gilbert, Mike Arms, Brian Pasko, Alice Anderson, Terry Lauritsen, Gene Aronson, and George Phillips!

March 21st NMSR Meeting: “Life, elevated” with hummingbird biologist

Chris Witt. Chris is an Associate Professor at UNM, and got his Ph.D. in Biological Sciences at Louisiana State University in 2004.

Chris began with some comments on science funding in the modern era. Years ago, the Smithsonian transferred some biological collections to Ft. Collins, CO, and some of these were later transferred to UNM’s Museum of Southwestern Biology. UNM had been receiving \$220,000 annually for curation costs from the government, but those funds have now gone away. Apparently, the Department of Interior is not all that worried about maintaining federal collections of bio-samples. Nonetheless, UNM has added lots of cryostorage capabilities. Chris has contributed several thousand samples of fauna from the Peruvian Andes region to the collection (mostly birds).



Witt’s work is mainly focused on high-altitude biology. What can we learn by studying birds and humans at high altitudes? What happens to individual animals when they are at high altitudes? UNM has a hyperbaric chamber used for sports training that Witt is allowed to use for experiments, and this permits students to experience what it would be like to be on top of Mount Everest. Their heart rates and other biological statistics are measured during the experiments, which simulate a change in pressure equivalent to 1000 feet per minute rise/fall. Chris asked “What would happen to these students if they remained in the chamber for years? How would their bodies respond to low-oxygen stress?”

Low levels of oxygen increase the concentration of the protein Hypoxia Inducible Factor (HIF), which affects gene expression itself. It can lead to Chronic Mountain sickness (CMS). Groups of humans living at high altitudes can adapt to lower oxygen levels; curiously, about 15% of Andean inhabitants have not been able to adapt, and suffer from CMS.

Most of the birds in the Andes have specialized to live in specific altitudes. The stress of mountain environments produces lots of ecological niches, and that leads to proliferation of species. A few of the bird species are “generalists” - able to live in high or low latitudes. Interestingly, the “generalists” seem to be the species following humans, who are also generalists (agricultural activities are a good source of nutrition for birds.)

How do species adapt to elevation? Chris’s group is studying hummingbirds, and looking at changes in hemoglobin. A mutation of hemoglobin, called $\beta 83$, has appeared in both hummingbirds and humans living at high

altitudes. Chris is categorizing the changes, so as to be able to identify high-altitude hummingbirds from their hemoglobin mutations. Chris's group has found that species that have gone from high to low altitudes tend to lose their hemoglobin mutations, which indicates there must be some downside to these effects overall. Many questions remain to be answered: do species vary in evolved tolerance to low oxygen levels? Do evolved differences affect species interactions? These questions are gaining new urgency with Climate Change. As the Earth heats up, the "Global Warming Escalator" prods those species to move to higher altitudes, where they must adapt to lower oxygen levels. Chris concluded with a description of hibernation in hummingbirds; if they do not have enough food, they "shut down" to conserve resources.

NMSR thanks Chris Witt for a fascinating presentation.

Spring Skeptiverse Haiku! by Keith Thomas, April 2018

| | |
|---|--|
| During a ghost hunt, Odd sounds get amplified by Unsound assumptions. | Will the walls that lock Our borders/Block off bigfoot Travel corridors? |
| Eschew post-modern Epistemological Relativism! | Do Aztec's human- Alien hybrids ever Drive our hybrid cars? |
| Scientific cranks And political crackpots Share some scary traits. | Could aluminum Foil hats/Counteract Cuba's Sonic wave attacks? |

Letters to the Editor: Horizons

It is refraction that makes objects appear somewhere that they are not; for example, Mt. Shasta is visible from high on Mt. Hood, but well below the summit.

In the early 1960s, I lived in an upper-story apartment in Portland with a clear view to the north. Mt. St. Helens (then much taller than it is today), Mt. Adams, and Mt. Rainier were all visible and all of the same angular size. The varying distances compensated for the varying actual size and height. One day Mt. Adams and Mt. Rainier were in their usual places, but Mt. St. Helens was way up in the air.

I recall it was Kendrick Frazier who reported seeing a similar, but more impressive, refraction effect on a highway between Lordsburg and Arizona.

Alice Anderson, Las Cruces

NEWSLETTER COSTS UPDATED

At our January meeting, members voted for a new rate structure to reflect the higher costs of the print newsletter over the online version. Hereafter, if you want the hard copy newsletter, membership dues will be \$25.00 per year; for the online newsletter, dues are \$15.00 per year.

DUES - check the date on your mailing label. If it's time for you to renew, or to make a contribution, please send a check to **DEBBIE THOMAS, NMSR Treasurer**, 3205 Alcazar NE, Albuquerque, NM 87110
Name _____
Address _____
Membership \$25 per annum (hard copy newsletter), or \$15 per annum (online newsletter).

The NMSR e-mail list is fun! It's an e-mail list with news announcements of interest to NMSR members, discussions about news of the times, and more. To join, send a request to nmsrdave@swcp.com.

Thanks to: John Covan, Eddy Jacobs, Debbie Thomas, Keith Thomas, and all our Puzzlers!

| | |
|--|---|
| | <p>IN THIS ISSUE: Future Meetings Announced New Puzzles! March Meeting - Hummingbirds and High Altitudes New Haiku!!</p> |
| | <p>NMSR Reports Vol. 24, No. 4 April 2018 David E. Thomas, Editor (505) 410-0753 801 Fitch Ave, Socorro NM 87801</p> <div style="border: 2px solid black; padding: 5px; width: fit-content; margin: 0 auto;"> <p>APRIL MEETING Guerrilla Skeptics of the Web! Weds. April 11th 7:00 PM CNM SRC 204</p> </div> |