

Staying safe in the sun includes more than sunscreen

We have all been encouraged to apply sunscreen products to ourselves and family members before significant sun exposure. Protection from the sun's UV rays is important to help prevent some skin cancers. But have you ever read the ingredients on your sunscreen bottle? You will likely find one or more of the following ingredients: avobenzene, oxybenzone, ecamsule, and octocrylene. It has been known since the 1990s that these ingredients are absorbed into the bloodstream, but the long term effects are still unknown. There is concern that some of these chemicals may cause endocrine, reproductive, developmental and cancer-related problems. In February

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Annika Maly



of this year, the FDA announced that it is creating a new set of rules and regulations around sunscreens which will be released in November 2019.

The lack of safety information regarding common sunscreen products was highlighted in a May 2019 article in The Journal of the American Medical Association. Researchers enrolled 24 adults who applied the recommended amount of sunscreen (spray, lotion and

creams) to 75% of their exposed skin four times a day. Researchers then measured the levels of sunscreen chemicals in the blood every day for seven days. The recommended distribution of sunscreen is equivalent to a quarter teaspoon applied to one's face.

The current FDA recommended blood level for these chemicals is less than 0.5 nanogram per milliliter (ng/mL). After one day of application, regardless of the type of sunscreen, blood levels for all the ingredients were over 1ng/mL. Oxybenzone levels were the highest at 34.4 ng/mL after 7 days of using sunscreen spray. Overall, the blood levels of the chemicals far exceeded the recommended concentration. While this was a small

study, it does raise important questions about the safety of these products.

The FDA uses the term "generally regarded as safe and effective" or "GRASE" to designate product safety. Only zinc and titanium are designated as "GRASE" for sun protectants at this time. Zinc and titanium are larger molecules that stay on the surface of the skin and do not absorb into the bloodstream. There are 12 other common chemicals in sunscreens, including those in the study above, that are now under the designation of "insufficient evidence of GRASE." PABA and trolamine are rarely seen on the shelves anymore, and they are considered "not GRASE."

Protection from the sun's harm-

ful UV rays continues to be paramount. There is not enough research at this point to make a conclusion on the long term safety of these products. There will be more to come about the safety of sunscreen and different sunscreen products in the future. Note that many of these chemicals can be found in chapsticks, cosmetics and lotions. In the meantime, avoidance of sun during the hours of 10 a.m. to 2 p.m., shade, clothing, and zinc and titanium sunscreens are the safest ways to go. See you at the beach!

Mountain Medicine is edited by Ron Polk, Emeritus Professor (retired), Virginia Commonwealth University, and Kelsey Allen, D.O., Family Medicine, Mountain View Medical Clinic.

NASA will send quadcopter to Titan to search for methane sources

NASA
Paul Voosen

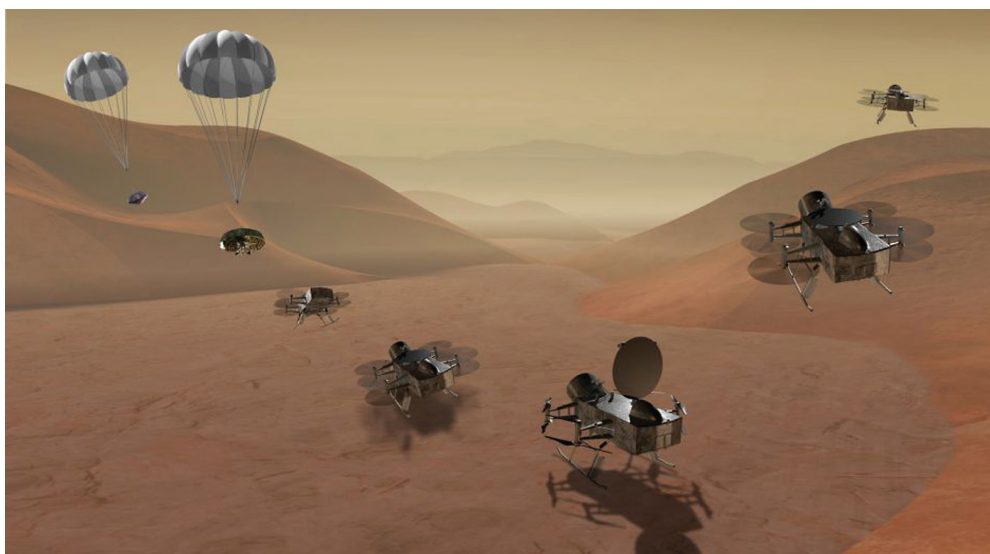
The siren call of Titan could not be ignored. NASA's next billion-dollar mission, called Dragonfly, will be an innovative quadcopter to explore Titan, Saturn's largest moon, the agency announced today. The craft will soar and hover over the icy moon's surface—and land on it—in a search for the conditions and chemistry that could foster life.

The mission—led by Elizabeth "Zibi" Turtle, a planetary scientist at the Johns Hopkins University Applied Physics Laboratory (APL) in Laurel, Maryland, and also managed by APL—will launch in 2026. It represents a calculated risk for the agency, embracing a new paradigm

of robotic exploration to be used on a distant moon. "Titan is unlike any other place in the solar system, and Dragonfly is like no other mission," said Thomas Zurbuchen, NASA's associate administrator for science in Washington, D.C., while announcing the mission's selection. "The science is compelling. It's the right time to do it."

Titan is veiled by a nitrogen atmosphere and larger than Mercury. It is thought to harbor a liquid ocean beneath its frozen crust of water ice. NASA's Cassini spacecraft studied Titan during its historic campaign, and, in 2005, dropped the short-lived Huygens probe into Titan's atmosphere.

The surface it saw had many geologic features similar to those found on Earth, including plateaus, dune-



NASA

The quadcopter that NASA is designing for Titan, Saturn's methane-burping moon, would be far more agile than that Mars Rovers.

filled deserts, and, at its poles, liquid seas and rivers. But on Titan, where temperatures average a frigid 94 K, the "rocks" are made

of water ice and the seas are filled with ethane and methane, hydrocarbons that are gases on Earth. The moon's stew of organic molecules and water, many scientists believe, could have resulted in reactions to create amino acids and the bases used to

build DNA's double helix. It's as if Titan has been conducting experiments on life formation for millions of years, Turtle says. "Dragonfly is designed to go pick up the results of those experiments and study them."

Dragonfly is an inspir-

ing selection, adds Lindy Elkins-Tanton, a planetary scientist at Arizona State University in Tempe and principal investigator of Psyche, NASA's mission to a metallic asteroid. "Titan might truly be the cradle for some kind of life—and whether life has emerged or not, Titan's hydrocarbon rivers and lakes, and its hydrocarbon snow, makes it one of the most fantasy-like landscapes in our solar system."

Given Titan's complex surface, a lander at a single site would not be able to say much about the moon's chemistry. Dragonfly leverages the advances in computing and aircraft design that have led to the explosion of hovering drones on Earth. It will carry eight rotor blades, on the top and bottom of each of four arms. It is, in effect, a movable lander, capable of shunting kilometers between sampling sites every 16 Earth days. Titan's dense air and low gravity will allow the 300-kilogram, sedan-size copter, which will be powered by a radioactive generator, to hover with 38 times less power than needed on Earth.

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CLUES ACROSS

- Wineglass part
- Equal
- Resort for dieters
- Bubbly beverage
- Old stringed instrument
- Road diagram
- Tentacles
- Slangy assent
- Perfect serve
- Better than better
- Closed, as an envelope
- Decreases
- Cobbler's punch
- Refuge
- Marsh grasses
- Paddle's cousin
- Residue
- Baltic or Red ____
- Doodles
- Made into law
- Janitor's implement
- Dilly
- Slender candles
- Break sharply
- House shape
- Side of New York
- Nero's garment
- Breakfasted
- Off yonder
- Wallet fillers
- In fashion
- Wet with morning droplets
- Forest-floor plant

CLUES DOWN

- Wound cover
- Rushed
- "Desire Under the ____"
- Learn well
- Tissue layer
- Needle's hole
- Memorable periods
- Play practice
- Littlest
- Swiftness
- Acted like
- Fear
- Comforter
- Piece of soap
- Pittsburgh product
- Reel holder
- Cauliflower ____
- Crushed
- Cee's follower
- Heartbreaking
- Large antelope
- Unhappiness
- Habit
- Atlanta Braves, e.g.
- Low female voice
- Out of danger
- "____, Nanette": 2 wds.
- Gets older
- Lapse
- Cutting tool
- Go for it

Church Directory

Church of Christ

502 W. 2nd Street • Wallowa
541-398-2509

Worship at 11 a.m.
Mid-week
Bible Study 7 p.m.

Grace Lutheran Church

409 West Main -Enterprise

SUNDAY WORSHIP at 9am
Mission Project:
"Bag It for School"
School clothes for Foster Children
phone (message): 541-426-4633
web: gracelutheranenterprise.com

St. Katherine's Catholic Church

Fr. Thomas Pudupulliparamban
301 E. Garfield Enterprise

Mass Schedule
Sundays:
St. Pius X, Wallowa - 8:00 am
St. Katherine of Siena, Enterprise 10:30am
Saturdays:
St. Katherine of Siena, Enterprise 5:30am
Weekday:
St. Katherine of Siena, Enterprise - 8:00am
(Monday - Thursday and First Friday)
All are welcome

St. Patrick's Episcopal Church

100 NE 3rd St, Enterprise
NE 3rd & Main St

541-426-3439
Worship Service
Sunday 9:30am

Joseph United Methodist Church

3rd & Lake St. • Joseph
Pastor Cherie Dearth
Phone: 541-432-3102
Sunday Worship Service
10:00 am

JosephUMC.org

Summit Church

Gospel Centered Community
Service time: 10:30 am
Cloverleaf Hall in Enterprise
541-426-2150
Interim Pastor: Rich Hagenbaugh

Summit Church
www.summitchurchoregon.org

Enterprise Christian Church

85035 Joseph Hwy • (541) 426-3449

Worship at 9 a.m.
Sunday School at 10:30 a.m.
Evening Worship at 6 p.m.
(nursery at A.M. services)

"Loving God & One Another"
David Bruce, Sr. - Minister

Christ Covenant Church

Pastor Terry Tollefson
Church Office: 541-263-0505

Family Prayer: 9:30 AM
Sunday School: 10 AM
Worship Service: 11 AM

723 College Street
Lostine

Lostine Presbyterian Church

Discussion Group 9:30 AM
Worship Service 11:00 AM
Childrens program during service
Blog: dancinforth.blogspot.com

541.398.0597
Hwy 82, Lostine
Stephen Kliever, Minister

Enterprise Community Congregational Church

The Big Brown Church with an open door
Pastor Archie Hook
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Bible Study 9:30am
Ark Angels Children's Program
Ages 4-6th grade, 11am
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Wallowa Assembly of God

702 West Hwy 82
Wallowa, Oregon
541-886-8445

Sunday School • 9:am
Worship Service • 10:am
Pastor Tim Barton
Visit Us on

Seventh-Day Adventist Church & School

305 Wagner (near the Cemetery)
P.O. Box N, Enterprise, OR 97828
541-426-3751 Church
541-426-8339 School

Worship Services
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Worship Hour 11:00 a.m. - Noon
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