Climate change causes abundant controversy but there is no doubt that much research has been going on in the field, especially since the use of satellites orbiting the world collecting data that has revolutionized our idea of the dynamics of water and wind.

“February 2017 was the second warmest February in 137 years of modern record-keeping" according to a monthly analysis of global temperatures by scientists at NASA's Goddard Institute for space studies (GISS) in New York.

Last month was 1.1°C warmer than the mean February temperature from 1951 to 1980. The two top February temperature anomalies have occurred during the past two years. February 2016 was the hottest on record, at 1.3°C warmer than the February mean temperature. February 2017's temperature was .20°C cooler than February 2016.

'Revolutionary' is a word you hear often when people talk about the GRACE mission. Since the twin satellites of the US/German Gravity Recovery and Climate Experiment launched on March 17, 2002, their data have transformed scientists' view of how water moves and is stored around the planet.

"With GRACE, we effectively created a new field of space-borne remote sensing tracking of water via its mass," said Michael Watkins, the original GRACE project scientist and now director of NASA's Jet Propulsion Laboratory, Pasadena, California. Like many other transformations, GRACE began with an insight. "The completely new idea about GRACE was the perception that measuring mass gives you a way to probe the Earth system," said Principal Investigator Byron Tapley, director of the Center for Space Research and professor in the Cockrell School of Engineering at the University of Texas at Austin. Measuring changes in mass has been a key to discovering how water and the solid earth are changing in places humans can't go or can't see.

The greater an object's mass, the greater its gravitational pull. For example, the massive Rocky Mountains exert more gravitational pull than the flat plains of the Midwest. Humans don't notice the tiny difference, but satellites do. While orbiting Earth, satellites accelerate very slightly as they approach a massive feature, and slow down as they move away.

The vast majority of Earth's gravitational pull is due to the mass of Earth's interior. A small part, however, is due to the mass of water on or near the Earth's surface. The ocean, rivers, glaciers and underground water change much more rapidly than Earth's interior does, responding to changing seasons, storms, droughts and other weather and climate effects. GRACE grew from the recognition that a specially designed mission could observe these changes in water from space, revealing hidden secrets of the water cycle.

GRACE measures changes in mass through their effects on twin satellites orbiting one behind the other about 137 miles apart. The small accelerations and decelerations caused by changing mass below the spacecraft alter the distance between them very slightly – by a few microns (a fraction of the diameter of a human hair). To measure this ever-changing distance, the spacecraft constantly beam microwave pulses at each other and time the arrival of returning signals. GPS keeps track of where the spacecraft are relative to Earth's surface, and onboard accelerometers record forces on the spacecraft other than gravity such as atmospheric drag and solar radiation. Scientists process these data to produce monthly maps of regional variations in global gravity showing how water on or near the Earth's surface has moved every month.
At 15 years, GRACE has lasted three times as long as originally planned. Project managers have done everything possible to extend its life but the spacecraft will run out of fuel—probably this summer. NASA and GFZ have been working since 2012 on a second GRACE mission called GRACE-Follow On with Germany again procuring a launch vehicle and the twin satellites built at Airbus in Germany. GRACE-FO is scheduled for launch between December 2017 and February 2018. JPL’s Watkins predicts, “There are sure to be more unexpected and innovative findings ahead.” NASA Media, March 2017

Despite the deniers, Science moves on.

RJG
April 7
The Art of Daycation | Nina Lesiga
A daycation is a one-day getaway without needing to stay overnight. Travel artisan and storyteller Nina Lesiga will share ways to achieve experimental, authentic and intriguing trips. In this fast-paced world it’s essential to refuel and to rebalance personal perspective for well-being and personal happiness. Learning about day-trip possibilities and ways to achieve that “gone away” feeling. Nina was featured in the June 2016 issue of Connecticut Magazine for her Art of Daycations.

April 21
Waterbury Interactive: Our City, Our Neighborhoods

Upcoming OLLI Travel

SPRING TRIPS 2017
5/04/2017 – Doris Duke Estate, Newport RI - member price $85pp
7/10-16/2017 – Bay of Fundy/New Brunswick - Canada/Campobello,ME (overnight) – member price - $1487pp dbl and triple

FALL TRIPS 2017
9/22-24/2017 - Adirondack Balloon Festival, Lake George, NY (overnight) – member price- $463pp dbl & triple
10/11/2017 – NY Botanical Gardens (Chihuly Exhibit), NYC – member price- $77pp
11/07-08/2017 – Terracotta Warriors@Franklin Institute, PA (overnight) – member price $307pp dbl & triple

Flyers available at the OLLI Information Table. All prices are member prices. Non-members are charged a slight surcharge that is listed on all flyers. Call Friendship Tours for information and reservations. (1-800-243-1630). Mention OLLI Travel.

Please Note – All OLLI Trips will depart from and return to the Chase Parkway DOT Commuter Lot, Waterbury. Maps of this Departure Area are available on the OLLI Information Table in the main hall.

**TRAVEL ANNOUNCEMENT**
OLLI Members interested in the Bay of Fundy overnight trip (July 10-16, 2017) should get their reservations in SOON. The deadline for the initial deposit is April 7th. Don’t miss out because of being late!
One-liners

A husband is someone who after taking the trash out, gives the impression that he just cleaned the whole house.

Amazing! You hang something in your closet for a while and it shrinks two sizes!

Never test the depth of water with both feet.

Just think, if it weren't for marriage, men would go through life thinking they had no faults at all.

A three-legged dog walks into an Old West saloon and says: "I am looking for the man who shot my paw."

A politician is a man who will double cross that bridge when he comes to it.

Drive carefully. It's not only cars that can be recalled by their makers.

A thief broke into the local police station and stole all the bathroom equipment. The chief was quoted as saying, "Unfortunately, we have nothing to go on."

The peacemaking meeting scheduled for today has been canceled due to a conflict.

I once wanted to become an atheist but soon gave up on the idea. They have no holidays.

Whenever someone says, "I'm not book smart but I'm street smart," what I hear is: "I'm not really smart but I'm imaginary smart."

How many times is it appropriate to say "what?" Before you just nod and smile because you still didn't understand what they said.

Wicked chickens lay deviled eggs.

Ratio of an igloo's circumference to its diameter: Eskimo pi

Nothing is worse than the moment, during an argument, when you realize you're wrong.

Proof read carefully to see if you any words out.

Osher Lifelong Learning Institute at UCONN, Waterbury

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The University of Connecticut
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The Osher Lifelong Learning Institute (OLLI) programs are centered around classes developed and taught by members who volunteer their time and talents to share their knowledge, life passions, and interest with other members. The OLLI program also sponsors special events featuring noted authors, scholars, and experts in respected professional fields.

OLLI Leadership Council

Council Members
OLLI officers are part of the Leadership Council, which is the principal representative body of the OLLI membership.

Council Officers
President - Chuck Miceli
1st Vice President - Toni Escott
2nd Vice President - Delma Way
Secretary - Pat Fahey
Assistant Secretary - Joyce Conlan

We’re on the web!  www.ولي.uconn.edu
What Is Art - - To You?

By Mary Fitzpatrick Peitler

I realized I’ve been writing this column for almost two years now, either previewing or reviewing cultural and artistic events in Connecticut and New York for OLLI students to consider. This week I could have done an Easter preview, but I’ll leave it to you to check out the arts listings in the New York Times, Waterbury Republican and Hartford Courant, and instead delve a little more deeply into the question of what art is to me, and of course, to you. But, what is art? By definition, it is man’s longing for beauty, expressed in media such as sculpture, painting, drawing, music, song, drama, dance, and literature. But I believe it is so much more. It is a personal quest for self-expression, whether by an individual, or an individual’s appreciation of another’s art. Throughout the ages, artists, writers and philosophers have mused on what art means to them. Here are just a few quotes:

“Life is short, art is long.” - Hippocrates
“Art is either a plagiarist or a revolutionary.” - Paul Gaughin
“Filling a space in a beautiful way. That’s what art means to me.” - Georgia O’Keefe
“To me the thing that art does for life is to clean it – to strip it down to form.” - Robert Frost
“Art has something to do with the achievement of stillness in the midst of chaos.” - Saul Bellow
“Art is a habit-forming drug.” - Marcel Duchamp

How very fortunate and grateful most of us at OLLI are as retirees or almost retirees, in relative good health, and with some resources (even if just to afford OLLI classes!) to be able to pursue the arts in a more leisurely fashion after a lifetime of work, raising children, caring for parents, etc. Of course, most of us took a few art classes in school, we took our children to museums (or accompanied their classes on field trips), and began to develop our own likes and dislikes in the arts. What makes this time of life so special in terms of our own personal artistic quest is the ability to further our knowledge and begin to appreciate things that are new to us. We know what we like thus far - e.g., I like representational art, impressionism, modern dance, ballet, local theater and historical fiction. But because of exposure to different things through OLLI, I have really started expanding my artistic purview. I never thought I cared for contemporary sculpture, but during my class at the Mattatuck Museum I was introduced to the work of Don Gummer and began to read more about what goes into such beautiful works. Through the class I am taking now on Dante’s “Paradiso,” I have gained an appreciation for classical poetry (even though I find it very challenging) that is new to me. And through my OLLI trip to the Metropolitan Opera’s performance of “Aida,” I rekindled a long dormant fascination with opera, what it means, how it is composed, and the myriad of elements that go into producing such a massive undertaking.

I think I like Duchamp’s quote the best. What better kind of habit-forming drug can we use at this point in life than a still developing love of things artistic? I hope you continue to expand your viewing repertoire. New experiences and an open mind can exercise and challenge our minds, uplift our spirits, and give us a great deal of pleasure, especially in the company of other seekers.

Correction: In last week’s column I mistakenly reported the price of tickets for “Jesus Christ Superstar” at the Seven Angels as $25. Apparently, I read the website too quickly. It is $25 if you are 25 years of age or under – so if you can convince them that you are 25 or under you’re in luck. For the rest of us, however, tickets are $49.50 minus a 10% OLLI discount.
MEET YOUR COUNCIL MEMBERS

**Toni Escott** relishes having new experiences and meeting interesting people.

Her adventures have included service in the U.S. Navy, a long career in data processing and, in retirement, travel throughout the world, significant volunteer work, and participation in book discussion groups.

She found mathematics was her best subject in high school. “I was always curious about how numbers worked. I loved geometry and wanted to learn more about it.”

Her interest in math led her to pursue her bachelor’s degree in that subject from Holy Family College, which was followed by a master’s in education from Nazareth College of Rochester, NY. She returned to Philadelphia after college and taught math to fifth and sixth graders for one year. Pulled by a desire to “help serve my country,” Toni called a recruiter, who had visited her college campus, and enlisted in the U.S. Navy in June 1966.

The navy sent her to Rhode Island for Officer Candidate School and she was commissioned an ensign in the fall of 1966. After that, the young officer went to a computer school, which helped prepare her to teach military personnel math and computer programming, which she did at the Washington Navy Yard.

Toni liked serving in Washington, where she met many individuals prominent in navy life and also her husband, Fran. She enjoyed opportunities to tour many places not open to civilians. She and Fran often attended concerts and events offered to military personnel.

After discharge, Toni and Fran married and moved to the Norfolk area, where she worked for the navy in a civil service position. When her husband was offered a job at Stanley Works, the family that now included son Jeff, moved to Connecticut. Toni began working in data processing for the Hartford Insurance Group, and retired from the company after 28 years. During that time she met many challenges and made many friends in the company.

Her volunteer work spans a wide range of activities. Toni ushers at the Bushnell where a side benefit is seeing shows. She finds patrons of the arts are “really nice” and she herself never tires of seeing *Wicked* and *Jersey Boys*. She recalls Diana Ross “gave a wonderful show.”

Toni has ushered many times for the Hartford Symphony and loved a “pops concert with the music of U2. It was great.”

Toni likes performances for children offered by the Bushnell. A show on voting for students 12 to 15 years old stands out in her memory. “The students were very attentive and respectful during the show and asked a lot of questions” during the question and answer period.

She also has served on OLLI’s Leadership Council. She joined OLLI after a friend who worked at UConn told her about it. “The classes have expanded my horizons and I have met many wonderful people.”

At St. Dominic’s Church in Southington, Toni is a greeter who welcomes people to Mass. She also is a member of Stephen Ministry, an ecumenical ministry based in St. Louis.

An online description of Stephen Ministries says “Stephen Ministers are congregation members trained by Stephen Leaders to offer high-quality, one-to-one Christian care to people going through tough times.”

A training program of 50 hours is required of those who would be ministers in this program. “We are listeners and do it through Christ,” Toni says.

Toni and her husband often travel with friends. Their trips have included cruises on the Danube River and on the Mexican Riviera and excursions within the United States, including one to Yellowstone National Park.

Toni still finds time to read with murder mysteries, particularly those set in Italy, being her favorite books. Asked if her math skills help with Scrabble, Toni replied in the email interview, I don’t think math helps me with Scrabble. But maybe it helps with Sudoku.”

-Mary Ann Martin