

SKYMATTERS

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March 2021

Things to watch out for

March 6

Mercury reaches its Greatest Western Elongation on this date. A western elongation means Mercury is west of the Sun, so we will see it in the east. This is the best time to view Mercury since it will be at its highest point above the horizon in the morning sky. Look for the planet low in the eastern sky just before sunrise.

March 13

The New Moon will fall on this date. The Moon will be located on the same side of the Earth as the Sun and will not be visible in the night sky. This is the best time of the month to observe faint objects such as galaxies and star clusters because there is no moonlight to interfere.

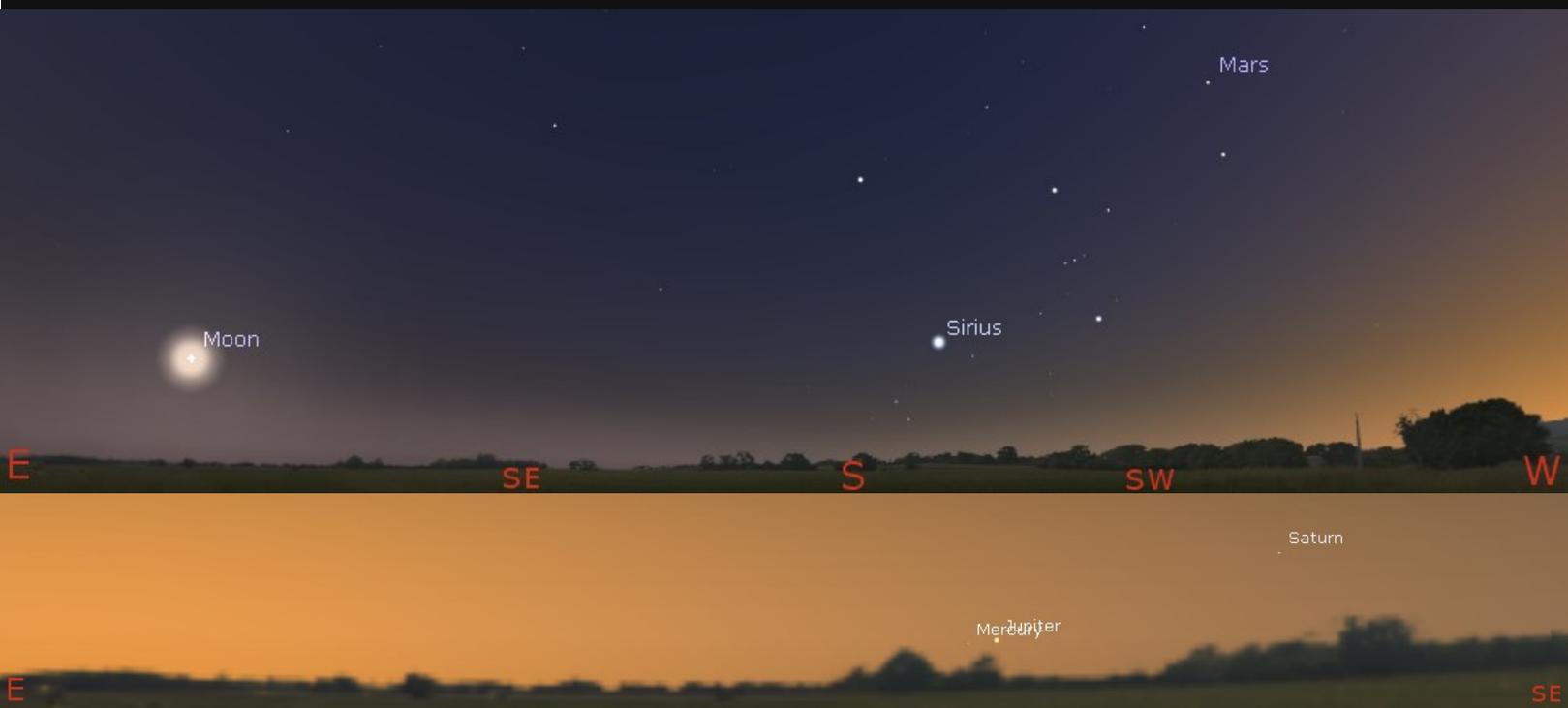
March 20

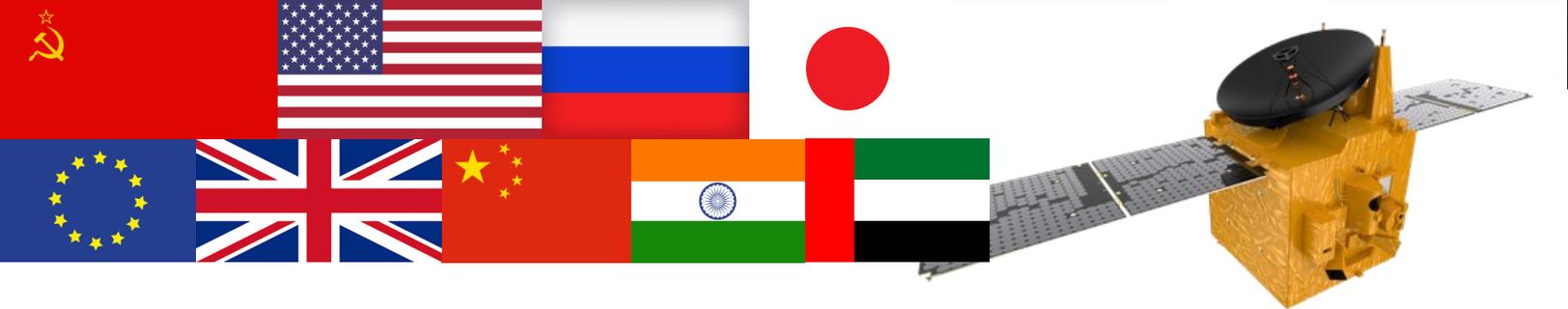
The March Equinox falls on this date this month. During the March, the Sun will shine directly on the equator and there will be nearly equal amounts of day and night throughout the world. This is known as the spring or vernal equinox in the Northern Hemisphere and the fall or autumnal equinox in the Southern Hemisphere.

March 28

The Full Moon will fall on this date, and it is also a Supermoon. The Moon will be located on the opposite side of the Earth as the Sun and its face will be fully illuminated. This is the second of four supermoons for 2020. This means that the Moon will be near its closest approach to the Earth and may look slightly larger and brighter than usual, best seen in photographs.

Upper image: Here we see sunset on the 28th at 8:45pm. Mars is visible high above the sunset in the west-southwest, with Orion below it and slightly to the south, with Canis Major's brightest star Sirius a little lower and further south again. The full Moon is visible low towards the east.
Lower image: Here we see sunrise on the 6th at 6:35am. Although this is Mercury's greatest elongation, it remains very close to the horizon, as seen here in close-up, making it almost impossible to observe. Jupiter and Saturn are also becoming visible, though they will get easier to see as the month progresses.





Top Left: The 5th successful Mars Rover, Perseverance, which touched down on Mars last month. In the top right we can see it's first successfully returned image from the surface.
Bottom Left: These are the flags of the groups that have reached Mars, successfully or not, starting on the top row with the now defunct Soviet Union, then the U.S.A., Russia, and Japan. Starting the bottom row is the E.U. flag, followed by the U.K., China, India and the UAE. Finally, bottom right is the UAE "Hope" orbiter, the first mission from that country, which successfully entered Martian orbit this month.

Mars Mission Results!

As of early this month, we can add two more countries to the list of nations with a presence around the Red Planet. Even counting the UK and Japan, with their failed Beagle 2 Mars lander and Nozomi orbiter respectively, just nine groups have made it to Mars. NASA and the European Space Agency are probably the best known, with NASA achieving the first successful fly-by of the planet in 1985. However, the Soviet Union, and later Roscosmos (the Russian Space Agency), have a large share of the successful missions, including the first impact and landing on Mars, back in 1971.

More missions to Mars have failed than succeeded (37 failures to 35 successes), including most nations first, and in some cases only, attempt. Until this month, only one country had succeeded on their first attempt, India, with their Mars Orbiter Mission entering orbit in 2014, it remains operational to this day. India is joined this month by the United Arab Emirates, as their maiden Mars mission, the Hope orbiter, successfully entered orbit on the 9th. Following an unsuccessful launch in 2011, China's first successful Mars orbiter, Tianwen-1, has also entered orbit as of the 10th. While the U.A.E. mission is purely an orbiter, the Tianwen-1 mission also includes a lander and rover. Scheduled for separation from the orbiter in May, if these missions are successful, China will become just the 3rd country ever to successfully operate a mission on the surface of our closest neighbour.

NASA, of course, has had many successes, including many surface landers and rovers. Few of us were surprised to hear of NASA's latest success, the landing of the Perseverance rover. However, even with so many previous successes, there are still new achievements to be made. Joining the Perseverance rover is the Ingenuity helicopter. A vertically-arranged bi-copter drone, Ingenuity is the first ever aircraft of any type to fly anywhere other than the Earth. Not just the first aircraft on Mars, but on any planet outside of ours. Hopefully, as in the past, NASA is simply setting the pace. They may be the first to fly on another planet, as they were the first to fly-by Mars. Since their first success they have been joined by country after country, first with fly-bys and then orbiters. More countries have entered Martian space in the past 20 years than had even attempted in the first 30 years of attempted missions.

The ratio of successes to failures also seems to be improving. From 1960 to 1971, 14 missions failed and just 7 succeeded. Since the year 2000, we have had 20 successes, just 4 failures. Of course, we will see soon if China's lander and rover succeed, giving us a straight run with no failures since the crashing of the Schiaparelli lander in 2016. Missions to Mars have been so difficult in the past, with far more failures than successes in the early days. Scientists even spoke of a Mars Curse, or a Great Galactic Ghoul that fed on Mars probes, in an attempt to explain the recurring failures. Now, however, as we push towards new records and winning streaks, the Mars Curse may simply have been our own inexperience. Each failure has taught us new lessons, such as the importance of sticking to either metric or imperial measurements (mixing the two has not gone well in the past). With this new knowledge, not only can we achieve more, but more countries and agencies can share in those successes. We should have many more such successes to look forward to.



MTU

Ollscoil Teicneolaíochta na Mumhan
Munster Technological University



Top Right: The new bilingual sign for “Munster Technological University”. “Ollscoil” means university or “super-school” just like “ollmhargadh”, supermarket.
Top left: One of the new bilingual signs in the University of British Columbia in the USA, featuring the Musqueam First Nations language, Halkomelem.
Bottom left: Here we see the sign for the Mayor’s Office in Novi Sad, Serbia, in all 4 of the cities official languages, Serbian, Hungarian, Slovak and Rusyn (not Russian).
Bottom right: We don’t need to go far to see more languages on an official sign, here is a sign from Northern Ireland in English, Irish and Ullan/Ulster-Scotch.

How does Irish keep up?

Seachtain na Gaeilge is here yet again! In previous issues of Skymatters we’ve spoken about ancient Irish astronomy and the traditional Irish word for the amazing phenomena above us. If you’d like to look back, previous issues of Skymatters remain available on our website, bco.ie. Just as we need to make new release’s of Skymatters to keep up with the ongoing developments in astronomy, so to do languages need to borrow or coin new words for the same reason. The Irish language is no different. As new advances are made and new technologies created, the language needs to keep up.

As most Irish speakers today also speak English, one tempting and common solution is to borrow the English term. Some examples include “raidió” for radio and “satailít” for satellite. This is common throughout the worlds languages, even English is full of borrowings from other languages. In all cases, borrowed words often change in pronunciation to fit their target language. One example in English would be “axolotl”, a type of fully-aquatic salamander often kept as a pet. This is usually pronounced as “akso-lotle” to rhyme with “bottle”, but in Nahuatl, the language where we get the word, it would be pronounced “a-show-low-tl” with the “tl” at the end pronounced more like the “tl” in “Atlantis”, it isn’t really a sound we use by itself in English, so we had to change how we pronounced it, and even though we do have a “sh” sound in English, it isn’t usually written with an “x”, as it is in Nahuatl. Irish suffers the same problem when it borrows words from English. It may look like we’ve just slapped a fada, or accent mark, on an English word, but in the word “raidió” we need to fada on the “o” to tell us that it’s a tense “o” like in the English word “go” instead of a lax “o” like in the word “bottle”. And in Irish, “a” is always said like the “a” in “cat”, so that’s how its said in “raidió” as well, to sound more like the English word it would need to be “reidió” which makes it look more unfamiliar. Of course, we could always just create our own word. Creating a new word for something can be tricky, and there are a few different ways to do it, which we can see when English creates new words as well. For example, the word particle. It’s almost entirely associated with science today, especially physics, but it is really just an old word for a little bit, often used in phrases like “dust particles”. So in Irish, we use an old word for a little bit, or a speck, “cáithnín”. And with that word, the world of “físic cáithníní ardfhuinnimh” or high-energy particle physics, was free to be translated, with only the word “físic” tracing back to another language. Sometimes a whole new word is created by changing an old word, like “selfie”. Of course, we already have a word for “self” in Irish, “féin”, so it was easy enough to change the ending appropriately to get “féinín”, a fully Irish word, but patterned after the English original. This is known as a calque, and it’s another very common way to borrow foreign terms.

Between borrowing, re-using and calquing, we have many ways to add to the words in Irish, and help it keep pace with the developments in science, which are so often named and described in English. We are lucky in a way that most of us are familiar with English, it makes borrowing terms that little bit easier. However, we are not alone. All around the world, languages need to coin and borrow new words to keep up with the modern world. For languages that have had less contact with English, this can often be more difficult. Luckily, that doesn’t stop even languages more endangered than Irish. One fantastic example is the Navajo word for tank, “chidí naa’na’í bee’eldq̄qhtsoh bikáá’ dah naazniligíí “ which means “vehicle that crawls around, by means of which big explosions are made, and that one sits on at an elevation”. In Irish, we went with “tanc”.

Tips for Participating in Seachtain na Gaeilge

This year, very few in person events are running as they have in the past. Luckily, we are all getting more and more comfortable with engaging with others over the internet, whether for work or just to contact loved ones. Seachtain na Gaeilge is no different, with options to engage with our native tongue still being provided.

Firstly, you'll need to find an event. At any time of the year, PEIG.ie is the place to go. PEIG stands for "Pobal Eolas Ilmheáin Gaeilge" or the "Irish Multimedia Knowledge Community". All Seachtain na Gaeilge events are registered through PEIG, but many other Irish language events are registered here throughout the year as well. Furthermore, this is an international celebration, both for the Irish diaspora and for anybody interested in our language, so don't be afraid to share with your friends overseas!

Besides taking part in a registered event, many of the ways we celebrated Seachtain na Gaeilge are more difficult this year. Getting together with a group of friends is tough whether or not you plan on speaking Irish. We can still give our "cúpla focail" on the rare occasions we go to a shop, but that's hard when shopping online. However, if you do manage to go for a socially distanced stroll with a friend, it's a good time of year to try sprinkling in some Gaeilge.

Lastly, a quick chat, even in broken Irish, or just to reminisce on when you were learning it, it's a great excuse to reach out and contact people, even over the internet or with a phone call. It can be tough to stay in contact with family and friends, especially if they live far away, but if they are one of the Irish speakers you know, now you have a great excuse to give them a buzz.

Website of the month

peig.ie

A nice short and sweet URL for PEIG, the web-portal for Irish language events, news and more all year round. Even if you don't get a chance to participate in Seachtain na Gaeilge, there are Irish language events happening all year round, all over the country.

Quote of the month

Our strength as a nation will depend upon our economic freedom, and upon our moral and intellectual force. In these we can become a shining light in the world.

Michael Collins, A Path to Freedom (2010), p. 64

Some Upcoming Events at CIT Blackrock Castle Observatory

For those of you who have not yet begun to enjoy our very own YouTube channel, BCO Education, this month you have an extra reason, as we will be publishing 2 Irish language astronomy videos as part of Seachtain na Gaeilge!

Furthermore, as part of our continued Outreach and Engagement, we are pleased to offer schools remote experiences in Irish as well! If you are interested check out our Observatory in your Classroom booking page:

www.bco.ie/education/bco-for-schools/observatory-in-your-classroom/

PUBLIC OPENING Hours: 10am—5pm (Mon-Sun)

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Blackrock Castle Observatory is operated by Cork Institute of Technology and is a partnership with Cork City Council.

