



Photo by Theerasak Saksriravee



## Taiwan team part of global space telescope project

**A tracking space telescope, designed to capture the early moment of gamma-ray bursts, was launched April 28 onboard Lomonosov spacecraft through Soyuz 2.1a rocket at a spaceport in eastern Russia.**

National Taiwan University (NTU) researchers played an important role in this international project to build the Ultra-Fast Flash Observatory (UFFO) space telescope to better understand the origin of the universe. The international team comprises scientists from Denmark, Russia, South Korea and Spain.

Chen Pi-sin, director of NTU Leung Center for Cosmology and Particle Astrophysics, who leads the Taiwan team, said there are three to four gamma-ray bursts occurring every day and the energy released is equal to the total energy released by the entire Milky Way galaxy. The bursts last from a few seconds to a few minutes, according to Chen. As gamma-ray burst shine much brighter than a typical supernova or a quasar, they are deemed more suitable for studying the distant and early universe and help scientists understand the evolution of cosmic expansion and dark energy, Chen said. Scientists have

been trying to capture initial gamma-ray bursts, but even the most advanced space telescope takes about 60 seconds to detect gamma ray, Chen said, adding that the UFFO is designed to capture the burst in one to two seconds.

Chen pointed out that the Taiwan team was behind the design of a “spiral telescope,” which takes only a second to aim mirror arrays on the target, thus recording visible light more efficiently. Chen explained that the UFFO telescope is expected to provide viable scientific data in three months, and eventually helping determine whether gamma-ray bursts can be used as a new “standard candle” to measure distance in space. “It takes eight years of the international team’s concerted efforts to build the telescope,” the Taiwanese scientist said, noting that “if the UFFO can capture a few initial gamma-ray bursts, it would be regarded as completing its mission,” he said.

Taipei Representative Office in Hungary



## TSAI ING-WEN ON TIME LIST OF 100 MOST INFLUENTIAL PEOPLE

Text: Focus Taiwan, Photo: time.com

Taiwan's President-elect Tsai Ing-wen has been included in Time magazine's 2016 list of the 100 most influential people in the world, which was released April 21.

Each year, Time presents its annual list of the world's 100 most influential people, from leaders and artists to pioneers, titans and icons. This year, US Democratic presidential candidate Hillary Clinton, Myanmar's democracy leader Aung San Suu Kyi and Taiwan's Tsai Ing-wen are among the leaders listed.

"Tsai Ing-wen radiates a calm that sheathes a core of inner steel," said in the magazine's profile of her penned by the Apple Daily's founder, Jimmy Lai. "As Taiwan's new President, she will need both qualities."



Others in the leaders' category include US President Barack Obama, Chinese President Xi Jinping, German Chancellor Angela Merkel, French President Francois Hollande and Russian President Vladimir Putin.

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### FROM THE GROUND UP

by Oscar Chung, Taiwan Review  
Photos: Huang Chun-hsin

While organic farming constitutes just a small fraction of the agricultural sector, the trend toward the practice is intensifying.

Back when Chou Chun-chi was an undergraduate in the mid-1980s, he often spent his free time riding his motorcycle along the narrow roads and twisting lanes that separate the farms of central Taiwan. A diligent student of plant pathology, he would glance at the crops as he passed by, pulling over if spotted any signs of disease. He would then seek out the agricultural workers responsible for the fields so he could discuss the matter with them and of-

fer some advice. "I'd help them by recommending pesticides, which often proved quite effective," recalls Chou, who went on to earn a Ph.D. in plant pathology from National Chung Hsing University in central Taiwan's Taichung City.

In the decades since, the 51-year-old has radically changed his approach to agriculture. While conducting postdoctoral research in the United States in the early 2000s, he witnessed firsthand the growth



of organic farming and came to appreciate the advantages of eco-friendly methods of cultivation. In 2005, Chou co-founded Tenha Organic Farm in Rende Township in southern Taiwan's Tainan County, now Rende District of Tainan City. At that time, it was the largest farm of its kind in the nation. "I could see that organic agriculture was going to become popular in Taiwan just as it had done in the United States, and I was eager to help develop this practice in my own country," he explains.

Chou's prediction concerning the growth of the sector has been borne out in the years since he established Tenha. His farm – which initially occupied nearly 10 hectares, hence its name, before later being enlarged to 16 hectares—has since been surpassed by several others in terms of size. At present, the largest such farm in the country spans 79 hectares. According to the Agriculture and Food Agency (AFA) under the Cabinet-level Council of Agriculture (COA), there were 6,071 hectares of officially certified organic farmland in Taiwan 2014. This marked an almost 390 percent increase from 2004, when the country was home to just 1,246 hectares of accredited organic cropland.

Compared with many Western nations, Taiwan is a late adopter of these agricultural practices. The first step toward the introduction of such methods was taken in 1987 when the COA launched a research program to assess the feasibility of establishing organic farms. In 1990, an affiliate of the Japan-based Mokichi Okada Inter-

national Association (MOA), which promotes integrative medicine, eco-friendly farming and the arts, was set up in Taiwan. This was the first local nongovernmental organization (NGO) solely dedicated to the advancement of organic cultivation. In the following years, a number of similar groups emerged.

The government responded to the growth of the eco-friendly agriculture movement by publishing national organic standards in 1999. Another major boost to the development of the sector occurred in 2007



when the Agricultural Production and Certification Act took effect. This law regulates how organic products should be produced, processed and packaged, and introduced penalties of up to NT\$1 million (US\$32,260) for individuals or companies that deliberately mislabel food as conforming to the official standards. The act also allows for the disqualification of certification bodies that are found to be negligent in accrediting organic farmland. The AFA performs regular spot

checks on products labeled as organic to ensure the integrity of both growers and certifying organizations.

In 2001, the MOA became the first group in Taiwan that was licensed to accredit crop growers according to the national organic criteria. Today, there are 10 such bodies. Meanwhile, the National Animal Industry Foundation (NAIF), a government-supported nonprofit organization, is the only entity in Taiwan that can certify farms as following the national standards for or-



ganic livestock, which were published in 2003. A variety of government bodies have become actively involved in promoting the growth of eco-friendly farming in recent years by subletting lands to farmers for organic crop cultivation. From 2009 to 2014, these initiatives led to the establishment



of 14 organic farming areas spanning 642 hectares.

Local NGOs are also playing a significant role in boosting the development of eco-friendly farming. One of these groups is the Tse-Xin Organic Agriculture Foundation. Established in 1997, the organization began certifying organic growers in 2003, before splitting off its accreditation division as an independent entity called Tse-Xin Organic Certification Corp. in 2011. Today, this corporation is responsible for certifying approximately one-third of the organic farmland in Taiwan.

Furthermore, the foundation established Leezen Co., a chain of 112 organic food stores located throughout the country, and has developed initiatives to teach farmers about organic and sustainable growing practices. Prominent farms in the sector like Tenha also help educate agricultural workers. “Many farmers have visited us to learn more about eco-friendly practices, and some of them now supply us with organic produce, which we repackage and sell under our brand name,” Chou says.

It is important to note that the amount of officially certified organic farmland conveys an incomplete picture of the growth of the sector. “Large farms are eager to get accredited because they know it will help

their sales, whereas smaller ones don’t feel they need to because they primarily sell their produce to a small group of people consisting of relatives, friends and consumers that learned about them through word of mouth,” explains Li Tsang-lang, director-general of the AFA.

Even though they might meet the criteria, many small-scale farmers elect against applying for certification due to the costs and hassles involved. There are also a considerable number of farms that do not meet all of the standards for organic certification but have made substantial progress toward achieving this goal by, for instance, choosing to forgo the use of chemical pesticides. Produce grown by these farms is sometimes labeled as toxin-free, though this is not an officially recognized designation.

While considerable progress has been made in a relatively short period, organic farming comprises just a small fraction of the nation’s agricultural sector. It is difficult to determine the total area of uncertified farmland dedicated to eco-friendly practices, but the AFA believes it is smaller than the amount of accredited organic farmland, which accounts for just 0.75 per-



cent of all croplands in the country. When it comes to organic livestock production, the room for improvement is even greater. Besides Tenha, which in 2009 became the first farm to be certified by the NAIF as raising organic poultry, just two others have been accredited as producing organic chickens and eggs. At present, these are



the only farms in Taiwan raising organic livestock. The high cost of eco-friendly agriculture is a major reason why many farmers adhere to conventional practices. “Only about half my chickens grow to adulthood, whereas the percentage for traditionally raised ones is more than 90 percent,” explains Chou. Likewise, Li notes that the production volume of croplands cultivated organically is about 20 to 50 percent lower than those where typical methods are used.

Things are looking up, however as eco-friendly agricultural techniques improve on an annual basis and consumers are increasingly conscious of food safety issues. Tenha, for example, has seen its revenue grow by more than 150 percent since 2008, even though the size of its farmland remained unchanged during this period. To help farmers, the AFA now offers subsidies covering at least two-thirds of the fees that farmers must pay to accreditation bodies for organic certification.

## People are lead characters: president-elect



President-elect Tsai Ing-wen said April 22 that her inauguration on May 20 will mark the day she and Vice President-elect Chen Chien-jen as well as officials in her administration begin to serve the people.

“Without people there would be no country. You are the lead characters,” Tsai said in a Facebook post in which she shared a new series of stamps to be issued by Chunghwa Post Co. on May 20 in commemoration of Tsai and Chen’s inauguration. Unlike in the past when such stamps always featured photos of the president and vice president, the new stamps are designed with pixels.

In one of the stamps, images of Tsai and Chen are placed alongside those of people from different walks of life and ethnic groups in Taiwan.

Tsai said the design symbolizes a pluralistic nation and that people are the most important factor that makes Tai-

wan a great nation, and she urged people to work together to move democratic Taiwan forward.



Text: Focus Taiwan, Images: Courtesy of Chunghwa Post



## Getting to Know Taiwan's Indigenous Cultures

*By Cheryl Robbins*

A cultural tour of Taiwan wouldn't be complete without learning about the island's native peoples, either by visiting a museum or theme park featuring aboriginal culture or going to one of the charming indigenous villages high up in the mountains.



Many first-time travelers to Taiwan are surprised by its cultural diversity, especially by the rich history and traditions of its indigenous peoples. Indigenous Malayo-Polynesian peoples have lived on the island for millennia, with archeological evidence confirming their presence dating back 12,000 to 15,000 years. Their languages belong to the Austronesian linguistic family, whose speakers are known for their migratory history and inhabit an area of the globe that stretches from Madagascar Island in the west to Easter Island in the east and from Taiwan in the north to New Zealand in the south. Currently, the 16 officially recognized indigenous groups are Amis, Atayal, Bunun, Hla'alua, Kanakanavu, Kavalan, Paiwan, Puyuma, Rukai, Saisiyat, Sakizaya, Seediq (or Sediq), Thao, Truku, Tsou, and Yami (or Dawu). As of March 2016, the collective population of these groups stood at approximately 548,000 (including about 14,100 people

who did not identify themselves as belonging to any one group), or 2.30 percent of the total population of Taiwan. The three largest groups – the Amis, the Paiwan and the Atayal – accounted for 70.90 percent of the indigenous population.

Although many indigenous peoples live in villages in the mountains and along the east coast, a significant number have settled in urban areas such as Taipei in search of job and study opportunities. This is especially true among the younger aborigines, which has led to a cultural crisis as traditions and languages are not being effectively passed on. Fortunately, in recent years more and more attention has been paid to this problem and efforts are being made to preserve indigenous languages and traditions, including the establishment of Asia's first indigenous TV channel, Taiwan Indigenous TV.

In addition, as ecotourism has gained in



popularity, so has a thirst for exploration of Taiwan's indigenous culture, as many indigenous areas are surrounded by natural beauty. But, before heading to the villages, it is a good idea to acquire some basic information about the culture. A good place to do that is at the Shung Ye Museum of Formosan Aborigines ([www.museum.org.tw](http://www.museum.org.tw)), located a stone's throw from the National Palace Museum in Taipei. This museum opened in 1994, and was for a time Taiwan's only museum dedicated to its native peoples. There are four floors of exhibition areas featuring arts and handicrafts, weapons, tools, clothing, musical instruments, and dwellings, as well as a large theater that shows short films on Taiwan's indigenous legends.

Taiwan's indigenous peoples are believed to be part of the Austronesian-language family, which boasts the largest distribution of any language family in the world, and includes not only the indigenous peoples of Taiwan but also the Maori of New Zealand and the peoples of Polynesia, Micronesia, and Melanesia. It is interesting to note, however, that although there are

some similarities in their languages, Taiwan's indigenous tribes each has a unique language not understood by people of other tribes.

The eastern Taitung County is home to the National Museum of Prehistory ([www.nmp.gov.tw](http://www.nmp.gov.tw)), which is also a good place for learning about Taiwan's indigenous culture. Its gift shop sells a good selection of books on this subject, as well as CDs of traditional and contemporary indigenous music.

Summertime is also the time when the Amis tribe, concentrated in the coastal mountains and plains of Hualien and Taitung counties, holds its harvest festival. This usually lasts for several days, during which the members of the tribe (in various combinations, such as young warriors, females only, etc.) dance in a circle to the chants of a tribal elder. The dates for the festival differ among the villages, but are usually around the middle of July for Taitung and around the middle of August for Hualien. Most of the villages welcome visitors to join in on the celebrations, including the dancing.



File photo



Other options for mixing cultural and ecotourism exist in Hualien, where many of the whale-watching tours that depart from Shihtiping and white-water rafting tours that depart from Rueisuei are operated by local aborigines, and sometimes include packages with dinner and other activities in nearby villages.

In central Taiwan, near Sun Moon Lake in Nantou County, is the **Formosan Aboriginal Culture Village**. This is an outdoor museum with life-size models of traditional dwellings. Next to these models, indigenous people dressed in traditional costume demonstrate art forms such as weaving and woodcarving. There is also an outdoor stage area for indigenous song-and-dance performances.

The Indigenous Peoples Cultural Park in Majia Township, Pingtung County, is also an outdoor museum offering similar attractions. The park is managed by the Council of Indigenous Peoples, the main government agency tasked with handling indigenous affairs. Information about Taiwan's indigenous tribes and the culture park is available on [the council's website](#). There is also a section on travel to indigenous villages. Suggested itineraries for those villages can also be found on the [Tourism Bureau's website](#).

As there are literally hundreds of indigenous villages in Taiwan, the travel opportunities are almost limitless. One of the most accessible is Wulai, an Atayal village

located in the hills upriver from Sindian in New Taipei City. This area has gained a reputation for its natural hot-springs and scenic attractions, rather than for its indigenous culture. But if you head to Wulai Old Street you will find a plethora of indigenous-cuisine restaurants and handicrafts stores. This is also the location for the Wulai Atayal Museum, where you can learn more about this tribe.



*Huang Chung-hsin*

Alishan National Scenic Area in Chiayi County is famous for its narrow-gauge alpine railway, mountain forests, and gorgeous sunrises. But it is also home to eight Tsou villages. Each has developed tourism facilities such as restaurants, homestays, cultural museums, and artist workshops. For more information, visit the dedicated [website](#).

Maolin National Scenic Area in Kaohsiung possesses Bunun, Paiwan, and Rukai villages within its boundaries. The Rukai village of Duona contains a collection of traditional slate houses, a rare sight in modern Taiwan. Near Duona are natural hot springs located next to a crystal-clear river. This village also boasts a handful of homestays and restaurants. More information is available [online](#).

From this small sampling, it should be clear that there are many exciting ways to experience Taiwan's indigenous culture and to meet its indigenous peoples. So get ready for an unforgettable travel experience.

*More on indigenous ceremonies can be found [here](#).*