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## Asteroid 3797

Was Named After Former Nanking Rotarian Dr. Ching-Sung Yu

南京紫金山天文臺創建人

南京扶輪社(1934)創社社員 - 余青松博士

By Herbert K. Lau (劉敬恒) (Rotary China Historian)

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*Dr. Ching-Sung Yu 余青松博士 PhD, MSc, BSc*

Asteroid 3797 was named in memory of Dr. Ching-Sung Yu (余青松博士) (1897-1978), Chinese-American astrophysicist, whose spectrophotometric measurements of 91 stars at the Lick Observatory in the early 1920s represented a milestone in research on stellar energy distribution. This “Star” 3797 -- Orbit Type: Main Belt Asteroid; Reference: MPC 14481 -- was discovered by Oak Ridge Observatory, Harvard, Massachusetts, U.S.A., on 22 December 1987.

Its name and number are allocated to it by the Minor Planet Center (M.P.C.), part of the Smithsonian Astrophysical Observatory. Some asteroids are dedicated by the discoverers to people or named after mythology, such as Arawn and Sedna. Those not named will be assigned the year and letters. Usually, it will just be referred to as “Ching-Sung Yu”.

This Asteroid 3797 is a large rock that orbits the Sun mainly between the orbits of Mars and Jupiter. They tend to be irregularly shaped, but Ceres asteroid is known to be spherical because it doesn't clear its path around the Sun. It is only a dwarf planet. Asteroids are also known as Minor Planets, but that term has largely fallen out of favour since 2006, with a preference for using Dwarf Planets and Small Solar System Bodies. Minor Planet refers to anything, not a comet or a planet.

Dr. Ching-Sung Yu, a Charter Member of Nanking Rotary Club (南京扶輪社) (1934), China (*Classification: Astronomical Service*), was born on 4 September 1897 in Amoy (*Xiamen*), Fukien (*Fujian*) Province of the Ch'ing Empire (大清國福建省廈門). He obtained B.Sc. in Civil Architecture (Lehigh University, U.S.A.); M.Sc. in Astronomy, 1923 (University of Pittsburgh, U.S.A.); Ph.D. in Astronomy, 1926 (University of California, Santa Cruz, U.S.A.).

After returning to the Republic of China (中華民國) in 1927, Yu established the Purple Mountain Observatory in the state capital Nanking (*Nanjing*) (南京) in 1934 and served as its first director. He also developed the site of what is now the Yunnan Observatory at Kunming (昆明), was director of the Academia Sinica's Institute of Astronomy and president of the Chinese Astronomical Society. After World War II, Yu migrated to North America and was a temporary member of teaching staff at the University of Toronto's Department of Astronomy, Canada, from February 1947 to July 1948. He moved on to work in the United States at Harvard College Observatory, and then in 1955, became professor of astronomy and director of the Williams Observatory at Hood College in Frederick, Maryland, U.S.A.

Retired in 1967, Dr. Ching-Sung Yu died on 30 October 1978 in Maryland, U.S.A.



## Stories in Stone

Chris Haugh / 5 November 2023

*AUTHOR'S NOTE: The following "Story in Stone" was researched and written by Hood College senior Jake Frensilli as part of his internship with us here at Mount Olivet Cemetery (spring semester 2023)*

As some of the more astronomically inclined readers of this publication might know, SpaceX recently launched the largest rocket by weight in history. Furthermore, the progress of NASA's Artemis mission should excite all Americans who care about our nation's future in space.

With all these recent advancements in space exploration, we should remember the debt we owe to the early pioneers in the field of cosmology. Without these intrepid explorers, our species would still be grounded here on Earth, and the beauty and immensity of space would still be hidden from us.

One of these pioneering astronomers was Dr. Ching-Sung Yu, a Chinese-American cosmologist who worked at astronomical institutions all over North America before settling in Frederick County with his family.

Dr. Yu was more than an astronomer; he was a modern-day Marco Polo. His profession many times took him across the Pacific, journeying between China and North America. During the early twentieth century, China was not yet the rising superpower it is today. Instead, by the turn of the century, China was still undergoing its “century of humiliation” at the hands of the Western powers. The nation that would eventually become the People’s Republic of China was then fractured into over a dozen warlord states, with a weak federal government headed by the Kuomintang party from the city of Nanking (*Nanjing*). It was during this tumultuous period of Chinese history that Ching-Sung Yu was born. Dr. Yu came into this world on April 4, 1897, in the Western-dominated port city of Xiamen, then romanticized as Amoy.

Living during these times was tough, and life expectancy was extremely short. By the 1920s, China was engaged in a protracted conflict with the communists, warlords, and colonial powers, chief among them the rising sun of the Japanese Empire.

Despite the odds, the young Ching-Sung Yu survived, traveled to the United States in 1918, and earned his degree in civil engineering from Lehigh University in 1921. After earning his undergraduate degree, he chose to study astronomy, earning his master’s degree in that field from the University of Pittsburgh and a doctorate from the University of California.

Despite the dangers, Dr. Yu returned to his home country in 1927 after acquiring an education in America. Dr. Yu was determined to revive China’s past astronomical glory. China had been one of the original great innovators of astronomical study; from the time of the first emperor during the third century B.C.E (before common era) until the Ming dynasty, China was the world’s foremost visionary nation in science and astronomy. The early accomplishments of Chinese astronomers were tremendous; these intrepid astronomical visionaries advanced humanity’s knowledge enormously.

However, by the time of the “century of humiliation,” China’s preeminent place in science had been lost. Beginning with the Ming Dynasty, China initiated a policy of intellectual suppression and national isolation. The subsequent Qing Dynasty continued these repressive policies, and they ultimately doomed China, one the most powerful nations in the world, to a period of decline and domination by outsiders.

Upon traveling back to China, Dr. Yu was one of the leading astronomical scholars in the country; he was one of the few astronomers in China with a prestigious Western education. Subsequently, the Kuomintang government awarded Dr. Yu with the position of Head of the Chinese National Observatory. Dr. Yu also became a Professor at the University of Amoy and an important figure in the Nationalist government’s educational department.

In the early 1930s, as Head of the National Observatory, Dr. Yu designed and oversaw the construction of the Purple Mountain Observatory, located adjacent to the city of Nanking. This observatory was to have the most powerful telescope in the Far East outside of the Japanese Empire. The observatory was to be one of Dr. Yu’s proudest achievements; hundreds of astronomical bodies were discovered from the observatory while it was in operation.

During this time, Dr. Yu built a life for his family in the then-capital city of Nanking. Ever the industrious visionary, Dr. Yu designed his own home, incorporating elements significant to him and his love of American culture.

Unfortunately, Dr. Yu's success and good fortune would not last, and the long-standing conflict between the Chinese factions and the Japanese Empire finally erupted into open warfare in 1937, forcing Dr. Yu and his staff at the Purple Mountain Observatory to flee. However, Dr. Yu and his team were determined to prevent the observatory's expensive telescope from falling into the hands of the Japanese, so they dismantled and hid the prize.

Somewhere along the way, Dr. Yu married the woman with whom he spent most of his adult life, Lou-Zse Hou. Lou-Zse would follow her husband on his adventures across the world until her death in 1971, seven years before the death of Dr. Yu himself. Dr. Yu and Lou-Zse had two children while living in China, a son and a daughter named Leslie. Unfortunately, the Yu's son perished due to illness outside Nanking while the family was fleeing the Japanese Empire's encroaching forces. Dr. Ching-Sung Yu and his family escaped China and went to Canada for safety.

Sadly, Dr. Yu seems to have been largely erased from the official history of the Purple Mountain Observatory and from the history of Chinese astronomy; his name is not listed anywhere on the PMO's official website.

Following the Yus' exit from their homeland, China's civil war raged on until the communists eventually secured complete victory, causing the Kuomintang forces of Generalissimo Chang Kai-Shek to retreat to the island of Taiwan, where they remain to this day. However, Dr. Yu's beloved Purple Mountain Observatory was located on the mainland, now fully controlled by communist forces. Less than a decade after their decisive victory in the Chinese Civil War, the People's Republic of China underwent a chaotic period known as the "cultural revolution." During this time, memories of the individuals who had served the Kuomintang government, as Dr. Yu had, were expunged from the records and erased, the individuals being declared "counter-revolutionaries." This is likely the reason for Yu's exclusion from the official history of the Purple Mountain Observatory.

After Dr. Yu left China, his Purple Mountain Observatory was re-opened by the communists; astronomer Zhang Yuzhe would now run the institution. Eventually, due to the rapid urbanization in Nanjing during the late twentieth century, Purple Mountain Observatory would have to be closed; the light pollution from the mega-city prevented the telescope from working properly.

Although Ching-Sung Yu would never again be the director of the Purple Mountain Observatory, his distinguished astronomical career was not yet over. Dr. Yu worked at observatories and astronomical departments all over North America before settling in Frederick, Maryland. More on that later as his journey from China would have a few stops in between. Dr. Yu and Lou-Zse wound up in Toronto where our subject gained employment at the University of Toronto and the David Dunlop Observatory there. After a few years, he would return to the United States, scene of his former collegiate studies.

Dr. Ching-Sung Yu moved to Boulder, Colorado in 1948 to work as an astronomer for Harvard and the University of Colorado. He practiced his craft at the High Altitude Observatory (later affiliated with National Center for Atmospheric Research (NCAR)). The NCAR's website provides this brief history of their work in Colorado with significant ties to Harvard University:

*"In 1940, Harvard graduate student Walter Orr Roberts and his doctoral adviser, astrophysicist Donald Menzel, founded a small solar observing station high on the Continental*

*Divide in Climax, Colorado. Roberts' assignment at the observatory was to last only one year, but, with the country's sudden entry into the war (World War II), he remained at Climax as sole observer, making daily observations of the solar chromosphere and corona. These coronal observations from Climax, with their implications for potential disturbance of terrestrial radio communications, became essential to the war effort.*

*From these small beginnings, the station evolved into the High Altitude Observatory and grew substantially after the war. In the late forties, HAO's laboratory and administrative facilities were transferred to the University of Colorado and the gentler climate of Boulder. In 1960, HAO formally became a division of a newly-established research institute in Boulder, the National Center for Atmospheric Research."*

Dr. Yu would study the cosmos with help from the Sommers-Bausch Observatory, today connected with the University of Colorado. The building was dedicated on August 27, 1953, during the 89th meeting of the American Astronomical Society, of which Dr. Yu was a member. The 17 foot, 10-inch Bausch refractor, originally from the Bausch & Lomb building in Rochester, New York, was installed in the dome the same year. Harvard University's High Altitude Observatory also had office space inside the Observatory.

Dr. Yu would be published in association with his High Altitude Observatory colleague Donald Menzel, as he helped co-author and provided illustrations.

While in Colorado, the Yus would be blessed with another child in addition to daughter Leslie. Samuel Yautung Yu was born in 1951, and his name should be very familiar to many in Frederick today. "Sam" Yu, as he was more commonly known, lived the majority of his life here in Frederick, graduating from Gov. Thomas Johnson High School in 1969.

After attending Rochester University, he came back home to Frederick and eventually gained employment as a photographer with the Frederick News-Post, beginning in the early 1980s. He would become a well-known fixture of the community over his 38 years with the paper, holding the titles of Chief Photographer and Head of the Photography Department.

Much of Dr. Ching-Sung Yu's work focused on heliology: the study of the Sun. Dr. Yu was chiefly interested in the study of the sunspots, which appear on the surface of the Sun as thousands of small (relatively speaking; some are larger than the entire Earth), highly dynamic, brownish dots.

Dr. Yu also invented a new method of making photographic images of spectrographic slits. This is a considerable contribution to not only heliology but also to cosmology in general. Observing the spectroscopy of astronomical objects, such as the Sun, is how cosmologists determine what objects are made of; thus, any advancement in the field of spectroscopy is a monumental achievement.

In 1995, Dr. Yu left Colorado to come with his family to central Maryland in order to accept the directorship of the Williams Observatory at Hood College. Longtime readers might recognize the benevolent family for the Williams Observatory from a previous "Stories in Stone" article titled "Possessors of 'Charity.'"

In 1922, the Williams family bequeathed Hood College \$30,000 for the construction of an "astronomical building;" thus, the Hood observatory was named in the family's honor. This



would be constructed in 1924. Dr. Yu would be taking the place of an old friend in the process. This was Miss Leah Brown Allen who had held charge of Hood's observatory since 1927.

Having directed a much larger observatory, which he, himself, had designed, Dr. Yu was highly qualified for this position. As the Frederick News-Post article points out, Dr. Yu had also been friends with former director, Miss Leah B. Allen. Allen had personally sought out Dr. Yu for the position once she decided it was time to retire.

Dr. Yu would spend the next two decades of his life, and the last portion of his professional career, as the director of the Williams Observatory. The Williams Observatory here in Frederick is not as powerful as the Purple Mountain Observatory but Dr. Yu still participated in new discoveries and strived to push the envelope of space science.

We now know for certain, using advanced modern instruments and also having had the benefit of on-planet probes, that Mars does not have life on its surface. Regardless, Dr. Yu's commitment to remaining on the front line of cosmology, even as he approached his retirement, is demonstrative of an insatiable scholar.

By all accounts, Dr. Yu valued his time as the observatory's director and enjoyed working with the students at Hood College, then an all-female student body. He also taught mathematics and geology while here.

The Yus resided at 1201 Fairview Avenue in Frederick, which made for an easy walking commute to Hood and the observatory for Dr. Yu. In addition to raising his children into adulthood, he was also an avid stamp collector, and boasted many from his two homes of China and the United States.

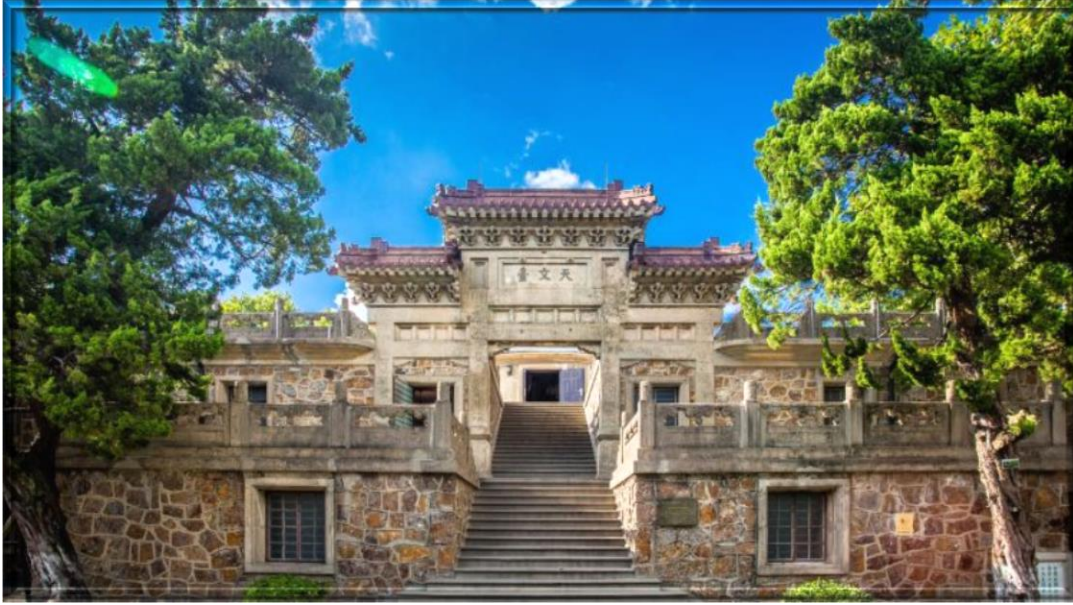
Lou-Zse died on April 9, 1971. Dr. Yu would retire that same year, having had a remarkable and highly successful career that took him across the United States and the world. During his time in Frederick, Dr. Yu was an active member of the community and enjoyed informing people about developments in Astronomy and Cosmology.

Dr. Yu never returned to China, and despite his enormous success in America, one has to wonder if he ever felt homesick for the nation of his birth? Ching-Sung Yu died on October 30, 1978, in Frederick, Maryland, and is buried at Mt. Olivet Cemetery alongside his wife, Lou-Zse in Area KK/Lot 125.

In recognition of Dr. Yu's academic achievements, the Royal Astronomical Society of Canada named an asteroid after the accomplished scholar in 1987 nearly a decade after his death.

In 1985, Dr. Yu's son Sam made plans to see his parents' homeland. He would travel to China at the behest of the Chinese government, which, interestingly enough, was honoring his father's work at this time. This trip was significant for Sam, who discovered his father's house that he, himself, had designed. Sam spent more than a month in China, being "wined and dined" by important figures from both the Purple Mountain Observatory and the Academia Sinica.

Sam returned and told the story of his landmark adventure in the Frederick News-Post through a wonderful photo-essay. Like his father, Sam would go on to have a tremendous professional career looking through a lens. Sadly, Sam Yu passed away at the age of 71 on Wednesday, September 21, 2022.



南京紫金山天文臺 -- 中華民國政府主席林森題寫臺名橫額

*Nanking Purple Mountain Observatory -- Signboard with the name of the observatory inscribed by Lin Sen, Chairman of the Central Government of the Republic of China*



1934年紫金山天文臺建臺時從德國蔡司公司（Carl Zeiss AG）購置的600毫米反射望遠鏡，附石英分光鏡與觀測升降台，這是當時中國以至遠東口徑最大的天文望遠鏡。

*When the Purple Mountain Observatory was built in 1934, it purchased a 600mm reflecting telescope from Carl Zeiss AG in Germany, equipped with a quartz spectroscopy and an observation lift. It was the largest astronomical telescope in China and the Far East at that time.*



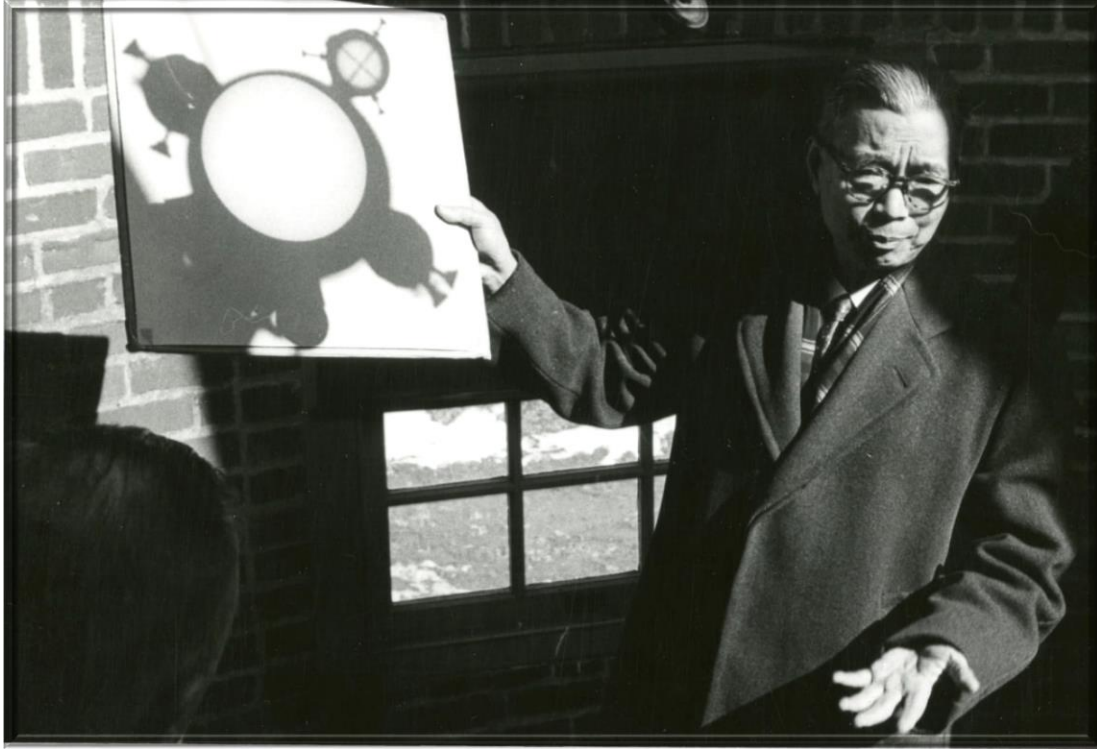


昆明鳳凰山天文臺 -- 變星儀圓頂室  
*Kunming Phoenix Mountain Observatory -- Variable Star Dome Room*

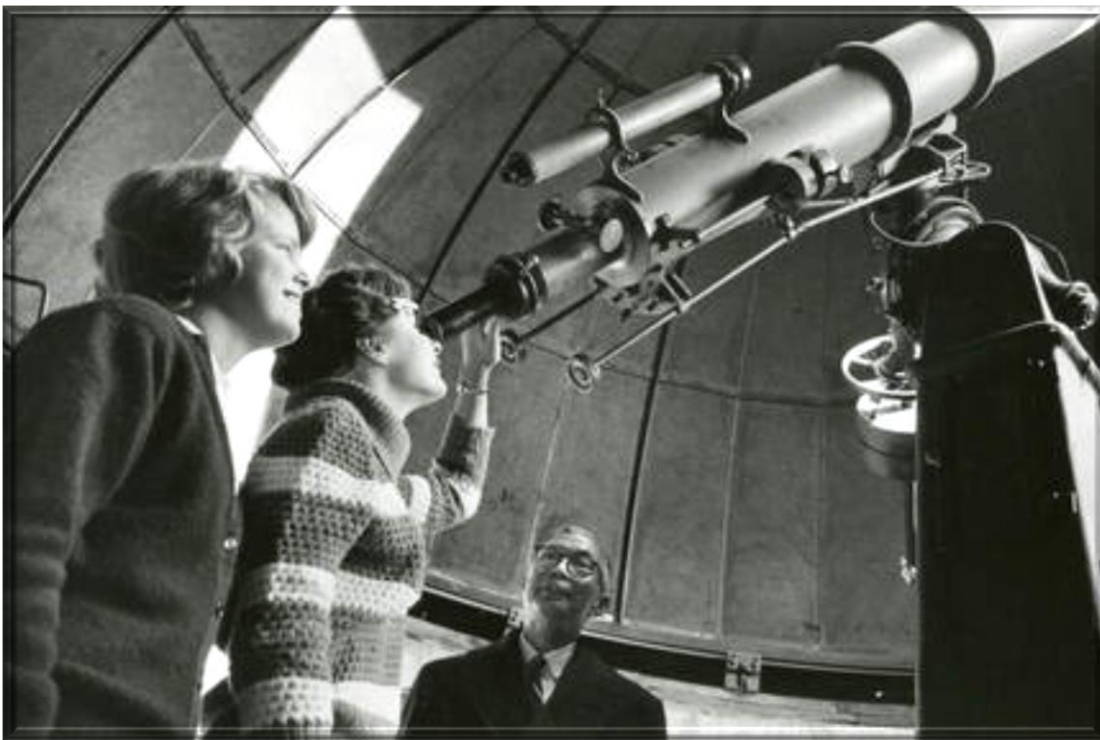


年輕的天文物理學家余青松博士  
*The young astrophysicist Dr. Chung-Sing Yu*





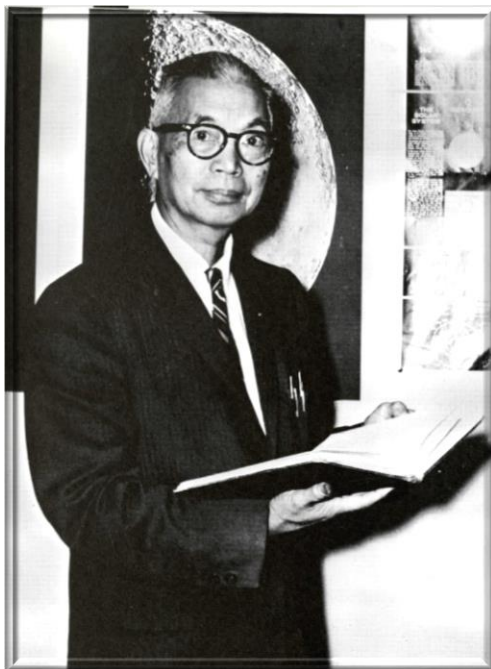
余青松博士在胡德天文台指導操作  
*Dr. Chung-Sing Yu instructing in the observatory at Hood*



余青松博士指導他的胡德學生  
*Dr. Chung-Sing Yu assisting his Hood students*

## 南京紫金山天文臺創建人

### 南京扶輪社(1934)創社社員 - 余青松博士



余青松博士（1897年9月4日—1978年10月30日），中華民國南京扶輪社(1934)創社社員（職業分類：天文服務），南京紫金山天文臺創建人，公認為十大「中國現代天文學家」之一。1987年12月22日榮獲美國哈佛-橡樹嶺天體物理天文臺(Oak Ridge Observatory, Harvard)將該臺發現的第3797號小行星命名為「余青松星」，以紀念余青松生前在天文科學研究上的貢獻。20世紀20年代早期，余青松在美國利克天文臺(Lick Observatory)對91顆恆星進行了分光光度測量，這是恆星能量分佈研究的一個里程碑。

1897年(光緒二十三年)9月4日余青松出生於大清國福建省廈門。中華民國建國後，1918年赴美國里海大學(Lehigh University, U.S.A.)攻讀土木建築學，獲學士學位。此後在美國匹茲堡大學(University of Pittsburgh, U.S.A.)攻讀天文學，1923年獲該校碩士學位。1926年在加州大學聖克魯茲分校(University of California, Santa Cruz, U.S.A.)深造天文學，獲哲學博士。

1927年回國任廈門大學(Amoy University)教授、天文學系創系系主任。其後的幾年中，發表了《有關Be型星的紫外輻射》、《雙子座ζ星的光譜變化》、《恆星光譜的光度研究》等課題的多篇論文。1929年任中央研究院天文研究所所長後，創建了南京紫金山天文臺。1938年因抗日戰爭，他主持該臺的內遷工作，並在昆明東郊建成了鳳凰山天文臺。

1947年，余青松移民北美洲，先後在加拿大多倫多大學(Toronto University)、美國的哈佛大學(Harvard University)天文台等處工作。1955年任美國馬里蘭州胡德學院(Hood College in Frederick, Maryland, U.S.A.)教授兼該院威廉斯天文臺(Williams Observatory)臺長。1967年退休，1978年10月30日病逝於美國馬里蘭州。

## 學問生涯

余青松少年時代是在家鄉廈門度過的，後來以優異的成績考上了（北京）清華留美預備班。1918年赴美國，先在賓夕法尼亞州伯利恆的里海大學(Lehigh University)攻讀土木工程專業。獲學士學位，畢業後在建築公司任設計員。1923年，一個偶然的機會，他到匹茲堡大學(Pittsburgh University)攻讀天文，並在阿利根尼天文臺(Allegheny Observatory)臺長邱提斯博士(Dr. Heber D. Curtis)指導下，進行天文觀測與研究，出色地完成了《天鵝座CG星的光度曲線和軌道》的碩士論文，這使他在美國天文界初露頭角。後來他又轉入加州大學聖克魯茲分校(University of California, Santa Cruz)進修，在利克天文臺(Lick Observatory)從事恒星光譜研究，曾獲得該大學的天文學獎學金。余青松以他的精深扎實的基礎，踏實苦幹的精神，使當時的恒星光譜研究取得了豐碩的成果。曾提出一種新的測定A型星絕對光度的光譜方法，後被稱為「余青松法」。他創造的光譜分類法，納入了國外天文學教科書之中。1926年就這方面內容完成了博士論文，獲博士學位。因此，余青松在國際天文學界頗有名聲。

## 創立廈門大學天文學系

余青松有著一顆赤誠的愛國之心，即使他在國外獲得如此高的聲譽，並沒有使他忘記自己的祖國。1927年，他毅然回到養育他成長的家鄉福建省，接受廈門大學(Amoy University)校長林文慶博士[註]邀請，創辦國內最早的天文學系之一——廈門大學天文學系，任系主任。

([註] 林文慶博士 Dr. Lim Boon Keng, OBE, LLD, FRCS, JP, 新加坡人，1919年香港大學授予名譽法學博士學位，廈門大學校長 1921-1937，廈門扶輪社(Amoy Rotary Club)社長 1935-1936)

1929年，具有伯樂之明的國立中央研究院天文研究所第一任所長高魯，相得這位「千里馬」，大力推薦余青松接任自己將要離崗的所長職務。此後余青松歷任國立中央研究院天文研究所所長、中國天文學會會長、中國日食觀測委員會主任委員兼觀測組主任、中國天文委員會主任委員等職務。另外他還是國際天文學聯合會(International Astronomical Union, IAU)、以及英國皇家天文學會(Royal Astronomical Society, RAS)會員。

## 痛感報國無門

余青松步入天文界後，幾乎都是在極其艱苦的條件下開展工作的。即使在艱苦卓絕的八年抗日戰爭中，也從未停下腳步。余青松以他那超人的智慧和特殊的才能，率領天文界，勵精圖治，踵事增華。無論是他親手創建的兩座現代化規模的天文臺，還是他使得中國現代天文學研究初具規模，其成就，都是前無古人的。他對開創中國的現代化天文事業，充滿著信心。可是，正當他準備為祖國的天文事業繼續奮鬥的時候，1941年，中央研究院以所謂專家須到國外進修為藉口，免去了余青松的天文研究所所長職務。面對著這無情的打擊，余青松傷心極了。但他此時並沒有甩手出國，而是仍舊懷著赤子之心，來到廣西桂林、四川重慶，負責起光學儀器和教學儀器的研製。1947年，他看到政府的腐敗無能，內戰連綿不斷。痛感報國無門，發展祖國的科學事業無望，便懷著抑鬱的心情，被迫離開了祖國。

最終在美國成為美籍華人，繼續天文研究事業直到病逝，享年81歲。



## 科學研究

余青松早期對恒星光譜有研究，發表了《天鵝座 CG 星的光變曲線和軌道》、《恒星光譜的光度研究》等多篇論文。他在首都南京創建了紫金山天文臺，也在雲南省府昆明東郊建成了鳳凰山天文臺。

1926 年在美國時，他對 A 型星光譜中氫原子的連續吸收作了深入研究，提出了測定 A 型星絕對星等的一種新方法。他對於恒星光譜和光譜分類方面的觀測研究成果，更是現代對於恒星能量分佈研究的一個重要里程碑，使他贏得了國際性的聲譽。為此，他被聘為英國皇家天文學會 (Royal Astronomical Society, RAS) 的第一位中國籍會員。

1927 年回國後的幾年中，發表了有關 Be 型星的紫外輻射、雙子座星的光譜變化、恒星光譜的光度研究等課題的多篇論文，繪製星圖多幅。

1929 年，因天文研究所高魯所長向中央研究院蔡元培院長推薦，余青松于 7 月接任天文研究所所長之職。

1934 年，他在首都南京創建了紫金山天文臺，並使其具備世界頂尖水準多年。

1936 年，作為中國首支日食觀測隊隊長，帶領隊員前往日本北海道觀測日全食，並為祖國留下首份現代日全食照片與資料。

1938 年春，南京被日本帝國軍隊佔領。淪陷後，余青松隨著天文研究所一起遷到了雲南昆明。為了能儘快恢復工作，投入觀測，余青松再次親自勘測設計，組織施工，在東郊鳳凰山上建造起了一座新的觀測站——鳳凰山天文臺。此站就是現今中國科學院雲南天文臺的前身。

1940 年底，余青松辭去了天文研究所所長之職。此後，他在桂林和重慶等地負責光學儀器和教學儀器方面的研究工作。

1947-1948 年任加拿大多倫多大學 (University of Toronto) 客座教授，後來到美國哈佛大學天文臺 (Harvard College Observatory) 工作。

1955 年後任美國胡德學院 (Hood College in Frederick) 教授、威廉斯天文臺 (Williams Observatory) 臺長。

1967 年退休為名譽教授。晚年時，余青松致力於星圖的設計和繪製。星圖繪有經緯線，別具風格，非常精美，刊載在不少天文書籍書。其中最受讚賞的是刊在著名天文學家門澤爾 (Donald Howard Menzel) 著的《天文學》一書中。門澤爾稱他為偉大的藝術家。

## 重大貢獻

余青松對中國現代天文事業作出的最大貢獻，是創建了當時東亞地區第一流水準的南京紫金山天文臺和雲南省昆明鳳凰山天文臺。

### 南京紫金山天文臺

紫金山天文臺建成於 1934 年 9 月，當時就有「遠東第一臺」之美譽。從該臺創建到初具規模，從開展天文觀測到學術研究，高魯、余青松兩位科學家嘔心瀝血，功不可沒。



如同許多學科一樣，中國天文學的近現代轉型，也是一段漫漫征程。雖然歷史悠久，但一直到清末，天文學的主要任務還是為皇家星占提供服務。之後，民國初年，中國還沒有自己的天文事業。從事常規天文觀測的青島和上海的佘山、徐家匯三處觀象臺都是外國教會、租界當局設立的。國際天文學界召開學術會議，邀請的中國代表竟然是在華的外國天文工作者。但偌大一個中國，竟然沒有一座自建的現代意義上的天文臺。就連南京紫金山天文臺的創建，也「非科學之因」。在中國傳統思想中，頒佈曆法是正統的象徵。1927年，蔣介石于南京建立國民政府，為了向並存的武漢和北京政府顯示「合法性」，成立了「時曆委員會」，編制民國曆書。

中國現代天文學的創始人高魯，敏銳地抓住機會。高魯是原中央觀象臺臺長、中國現代天文事業的創始人之一，於1928年2月任中央研究院天文研究所第一任所長。為了國家利益和民族尊嚴，高魯力爭《建國立第一天文臺在南京紫金山》的提案在中央研究院獲得通過，國民政府也據此下達了關於籌建紫金山天文臺的第293號訓令。高魯於是三登紫金山，勘察地形和選擇天文臺臺址。可是申請剛剛通過，高魯便被派駐法國就任公使，遺缺待補。高魯以伯樂的眼光，相中了余青松這一「千里馬」——30歲不到已在國際天文學界頗有名聲。

高魯與余素未謀面，但他在國外天文學教科書上發現了余青松發明的「恆星光譜分類法」（當時被天文學界譽為「余青松法」）。於是向中央研究院蔡元培院長力薦，由余接任天文研究所所長。接替高魯職務後，余青松秉承高的宏願，多次登上南京清涼山、紫金山。經過反覆實地勘察，初步將天文臺臺址選在紫金山最高處的第一峰。

當時，紫金山屬「總理陵園管理委員會」管轄。陵園方面於是為天文臺設計了從太平門外「龍脖子」繞道，沿山的北坡達第一峰的盤山公路。紫金山北坡陡峭，工程量艱巨浩大，5公里的築路工程預算高達5萬元（這在當時是個大數目），天文研究所負擔不起。於是陵園方面建議將臺址改在紫金山的第三峰，公路只需2公里長（結果只花費1.3萬多元築路費）。余到第三峰察看，見這裏山頂面積寬敞，風景如畫。距市區又近，如築公路則坡度較平緩。海拔高度雖然不及第一峰，但具備天文觀測條件。遂一錘定音，選定臺址。

由於經費短缺，南京紫金山天文臺的招投標，足足流產了七次，沒有一家建築公司能夠完成這樣大的工作量。於是，余青松開始自己主持負責建築工作。紫金山天文臺幾乎所有的建築物，都由他本人設計與繪圖——大到觀測室，小到員工宿舍、蓄水池，甚至包括電纜裝置和防火設施。在後世的許多建築學家看來，這些建築既達到了天文觀測的硬體要求，在建築的外觀上，也是中西合璧的經典之作，「很難想像，這居然出於一個建築外行之手。」但是，余青松也有不省錢的時候。從德國蔡司公司（Carl Zeiss AG）購置的600毫米反射望遠鏡，附石英分光鏡與觀測升降台，這是當時中國以至遠東口徑最大的天文望遠鏡。

經過天文研究所全體同人的努力，1931年5月動工，1934年紫金山天文臺的建築工程全部竣工。前後費時五載，中華民國政府主席林森題寫臺名橫額。9月1日，紫金山天文臺（余青松實際是首任臺長）舉行落成揭幕典禮，實況由中央廣播電臺現場直播。中央研究院蔡元培院長在祝詞中讚道：「余青松先生積數年之勞苦，開遠東未有之先聲，終建此臺……國立第一天文臺獨立於斯時崛起的東方，必對中國科學進步貢獻巨大！」紫金山天文臺的建成，浸透了以所長余青松為首的天文研究所全體人員的心血。紫金山天文臺拔地而起後，轟動了國際天文學界，有不少國外學者慕名而來。日本京都大學校長、天文學者（專攻宇宙物理學和中國古代曆法）新城新藏博

士和幾位日本學者到紫金山天文臺參觀後，站在變星儀室前面，瀏覽全景，深有感觸地說：「日本目前還沒有一個能夠建築這樣好的、東亞第一流的天文臺的人。」

紫金山天文臺為中國近現代天文學的發祥地，被譽為「中國現代天文學的搖籃」。1950年5月20日取消天文研究所，正式更名為「中國科學院紫金山天文臺」。

### 昆明鳳凰山天文臺

1937年7月，日本帝國對中國發動全面侵略，抗日戰爭爆發。是年8月23日，受戰亂波及，中央研究院天文研究所的工作人員被迫撤離當時的首都南京。研究所首先撤到湖南省長沙市，不久後又轉移至廣西省桂林市，最後於1938年4月25日搬遷到雲南省昆明市。當時的研究所所長余青松認為昆明一帶地高雲薄，夜晚星光明晰，非常適合天文觀測。因此他決定在這裡建立天文臺，繼續天文觀測研究。經過四處實地勘測選址，這座戰時天文臺最終定在昆明市東郊的鳳凰山上。其後，余青松與天文研究所的職員親自測繪實際地形，自己設計天文臺的建築藍圖。在籌建過程中，由於當時勞動力極少，他對變星儀觀測室圓頂的設計，不抄襲成法。設計式樣既美觀，使用也輕巧方便，僅由一個工匠就能製作，幾個人就能把觀測圓頂裝配成功。1938年秋季動工後，鳳凰山天文臺於來年（1939年）春季建成，共含四棟建築，包括一座辦公樓（同樓有變星儀觀測室、太陽分光儀觀測室和圖書室）、一座中星儀室。同年，天文臺投入使用，恢復了天文研究所中斷了兩年多的天文觀測研究工作。

抗戰勝利後，1946年5月中央研究院天文研究所遷回南京，但在鳳凰山留下這個工作站。1950年，更名為「中國科學院紫金山天文臺昆明工作站」。1972年，經國家計劃委員會批准，昆明天文站正式更名為「中國科學院雲南天文臺」。

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余青松博士於1978年10月30日在馬里蘭州弗雷德里克去世，葬於橄欖山公墓。

*Dr. Ching-Sung Yu died on 30 October 1978, in Frederick, Maryland, and is buried at Mt. Olivet Cemetery.*