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# AIRWAVES

Winner of the 2009 Belsam National Award for Excellence

## TIGHAR SEARCHES FOR AMELIA EARHART

by  
*Capt P.D. Sargent*

*Like a sea-going SAR mission, TIGHAR, an archeological research group, set out to locate Amelia Earhart and her companion, Fred Noonan, who went missing in the area of the Phoenix Islands in the Western Pacific as they set out to circle the world in a rebuilt Electra in 1937.*

Photo courtesy of TIGHAR web site



The Niku VI team venturing out to Nikumaroro The arrow points out Maj Andrew McKenna, Boulder Composite Squadron, with the TIGHAR team.

**CELEBRATING THE SEARCH FOR THE PAST**

*Continued on page 2*

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# The Ultimate Aircraft Search TIGHAR - The Earhart Project

by  
*2d Lt Luc Moens*

*Maj Andrew McKenna's presentation to the squadron's October general meeting illustrated that Amelia Earhart's historic flight might have ended on an uninhabited island in the Pacific. However, try as he might to disprove that theory, McKenna acknowledges that as clues continue to be found, he is just not sure. Ed.*

The mystery has captivated the aviation community for over 70 years and has been fodder for anything ranging from conspiracy theories to scientific studies. The story, of course, is that of the disappearance in 1937 somewhere over the Pacific Ocean of Amelia Earhart who, together with navigational expert Fred Noonan, flew a Lockheed Model 10 Electra twin engine aircraft in what was supposed to be the final stretch of their historic flight around the World.

The flight started in California and would lead them over the Caribbean, Brazil, across the Atlantic Ocean, Arabia, India, SE Asia, to Australia and New Guinea. From there, the goal was to fly another 2600 miles to reach Howland Island right after sunrise. This small, one square mile coral island contained a runway that was apparently built solely for this historic flight, and was considered a crucial refueling spot on the way to Honolulu, from where they would fly back to Oakland, California. Because it was surrounded by the vast expanse of the ocean, the goal was to reach the 157° -337° 'line of position' that in those days was used as a navigational tool, and that was defined by the front of sunlight as it marched across the earth's surface during sunrise.

Radio communication between Amelia and a radio operator on a Coastguard Ship near Howland Island indicated that the plane had indeed reached this 'line', but Amelia was unable to hear this operator's instructions, presumably because of a belly antenna mast on her plane that accidentally broken off upon take-off 22 hours before. With only about two hours of fuel left, and no means to communicate with the ship, the plane is believed to have veered away from Howland Island.

Thus began the grand mystery around the disappearance of Amelia Earhart, and to tell us about what might have unfolded after that was Maj. Andrew McKenna of the Boulder Composite Squadron, who since 2000 has participated in three scientific expeditions to the Pacific to search for remnants of Amelia's plane. As an active member of the "Earhart

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Project” operated by an organization called TIGHAR, The International Group for Historic Aircraft Recovery, Maj. McKenna presented the newest findings by his expedition team during our October Squadron Meeting. Through the use of a fascinating slideshow, he presented compelling evidence that Amelia most likely perished on Nikumaroro, “Niku”, a small island among the Phoenix Islands, and located SE of Howland Island. Niku has a lagoon that is visible from forty miles away, which makes it stand out from other islands that are much harder to discern among the shadows of overhanging clouds over the ocean. During low tide it also has a wide beach front, as well as a highly visible shipwreck where a landing spot would have been most obvious to a pilot of a plane that was getting low on fuel. After Amelia’s plane went missing, a number of amateur and military operators reported hearing a woman’s voice on their radios. This led to the dispatching of the Navy battleship USS Colorado that immediately started what must have been the most expensive missing person search in history in July 1937. Three planes went out on a search for wreckage on the beaches and later over open water, and at one point the chief pilot of this operation saw some signs of habitation on the island but did not see signs of airplane wreckage. A later analysis conducted by PanAm of all radio communication showed that triangulation of the radio signals of the last hearing of Amelia’s voice converged upon Niku.

In 1937, Niku fell under British colonial jurisdiction, and colonial records later showed that castaway bones had been discovered in 1940 comprising a skull and 13 major bones that most likely belonged to a white Nordic woman sized at 5.5 to 5.9 ft. Amelia was 5’7.” The whereabouts of those bones are currently unknown, but

apparently they were at one time shipped off to the medical school in Fiji from where they later disappeared. Maj. McKenna, who is the son of a paleontologist, then presented an overview of all the objects that were dug up on Niku by the team that consisted of an extraordinary collection of skilled scientists, including archeologists, forensic pathologist, anthropologists, forensic imaging people, oceanographers and ham radio experts.

The detective work conducted in the field by this impressive team was not always glamorous as it involved three weeks of clearing vegetation and digging in the soil down to 10-15 cm in oppressive heat (up to 110°F !). Moreover, staying off the ground at night was key to not being eaten alive by hermit crabs that came out of the jungle in droves. Nevertheless, many interesting objects were found that could be important pieces of the big puzzle. These included pieces of garments like buttons, a zipper of a lightweight jacket, a woman’s cosmetics bottles that might have belonged to Amelia, a sextant box (Noonan was said to carry a sextant with him at all times), pieces of glassware, a jack knife, and even a piece of aluminum that might have been part of the plane’s fuselage. Throughout the presentation, the speaker shared his scientific approach in a systematic fashion as he tried to disprove the origin and ownership of the various objects, but admitted that the mounting evidence now makes it hard to prove that it was not the site where Amelia perished. Future expeditions will also focus on figuring out the whereabouts of the bones that will make it possible to acquire more evidence through DNA analysis. In the meantime, the grand mystery continues to keep its secrets.

Please learn more at the TIGHAR website: <http://tighar.org>

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# Chasing the Greatest Mystery of the 20th Century

by

*Capt Patricia Sargent*

*One of the world's longest and most expensive searches is not for gold bullion hidden by pirates in deserted island caves, but for an entirely different kind of treasure: the first woman to fly across the Atlantic Ocean solo and the first pilot, man or woman, to fly unaccompanied across the Pacific Ocean. While the quest for Helen of Troy allegedly lasted ten long years, the quest for Amelia Earhart has lasted a full seventy-three years and is not likely to end any time soon. This woman of indomitable spirit and profound curiosity not only flew airplanes but broke records when women were just beginning to enter the field of aviation. She always aimed high. As she neared her 40th birthday, she was ready for a monumental--and final--challenge. She wanted to be the first woman to fly around the world. She was a leader, a role model, and America's Darling in the 1930s.*

In pursuit of solving the greatest mystery of the 20th century, Maj Andrew McKenna joined other professionals of TIGHAR to team up and use their unusual talents to search for the remains of the ill-fated aircraft that was lost July 2, 1937. Given the composite of past evidence, the organization focused on the island of Nikumaroro in the Gilberts in the Western Pacific.

TIGHAR, is an International Group for Historical Aircraft Recovery. Its members, headed by a professional archaeologist, the science lead, the group is made up of a forensic anthropologist known as “the bones lady,” oceanographers, astronomers, a Geo information system, GIS, specialist, a forensic imaging expert, and people of special interest including antique bottle experts, a researcher from the New York City Library and of course, McKenna, whose father was a paleontologist, one who seeks, finds, and interprets fossils and ancient artifacts. McKenna's role was that of a field worker, a diver, and an aviation history buff. All pool their specific expertise to search for clues, sift the ground for telling fragments, research the findings, and locate Naval and other archives. “The group thinks of itself as having *A Bee Hive Mind*,” he said.



Legendary Aviatrix, Amelia Earhart

That lost airplane, a rebuilt Electra, was carrying the pilot, Amelia Earhart and her navigator, Fred Noonan. Noonan was a mariner before becoming an aviator and knew celestial navigation and a great deal about the sea. It was thought at the time that they were the right air crew combination to navigate their way around the equator. With global acclaim the team sought to break just one more flight record.

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The world waited as Earhart's plane lost communication with the Navy who was tracking her progress. Apparently the Navy could hear Earhart but she could not hear them. Time passed, and communication finally ended. This woman who had surpassed the wildest dreams of many became a legend. In addition to Naval searches, and independent search teams, TIGHAR has undertaken six missions to follow up the faint clues to try to locate the plane and its crew. Was a skull located in some early mission and was it that of a Caucasian woman? Bones, including a skull, had indeed been found and sent to Fiji where it disappeared. Records there were not available. But additional bones have been found more recently, along with a sextant's box.



Noonan was known to have collected sextants and one was surely needed on the Earhart flight. Unfortunately, bones, dried for a long period of time, lose their moisture and traces of their DNA. Additionally, part of a knife body was found on this mission, a double-bladed jackknife. It matched another part of a knife found in 2007. TIGHAR'S web site information says, "We found one small part of a pocket knife we were able to identify as an Easy-Open, bone handled, double bladed jackknife made by the Imperial Cutlery Company of Providence, Rhode Island between 1930 and 1945," the article said. "This time," it continued, "we found the rest of the knife, except for the blades. It is now apparent that someone beat the knife apart with a blunt object, breaking it open

for the express purpose of removing the blades." "Possibly," said McKenna, "the blades were to be used for spearing fish." The mystery is tantalizing but facts are evasive. There still does not seem to be enough pieces of the puzzle to draw conclusions.

Still, TIGHAR has discovered other objects on Nikumaroro including "improvised tools, an aluminum panel (possibly from an Electra), an oddly cut piece of clear Plexiglas which is the exact thickness and curvature of an Electra window, and a size 9 Cat's Paw heel dating from the 1930s, which resembles Earhart's footwear in world flight photos." Someone was trying to survive. How long that someone lasted is a matter of conjecture.

The son of an scientist, McKenna has shown a keen interest in TIGHAR's work. "After WWII," he said, "a rash of wholesale treasure hunters combed the war theaters for downed aircraft to rebuild, sell, and display. TIGHAR was established in the War Bird Movement in the 1980s which was to find the artifacts of war, to preserve and conserve for posterity before the precious mementos were stripped of their authenticity, rebuilt, and paraded as originals."

"The data plate," he added, "is the airplane." Antique aircraft, those over fifty years old, were scavenged by aviation buffs without regard to their origin or importance. "People were locating data plates, rebuilding pieces of found aircraft, and calling them original," he said. TIGHAR was founded to locate historic

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downed aircraft and preserve them for the world's heritage.

Maj McKenna, a member of the Boulder Composite Squadron, said the missions are not unlike Civil Air Patrol's Search and Rescue sorties. Given reason to locate lost or downed aircraft, the team uses its considerable human resources to locate, uncover, and research lost artifacts.

Maj McKenna lives in Boulder with his wife, Jacquie, and daughters, Xan and Juliana.

Maj Bruce Hertelendy, COWG and squadron Disaster Preparedness Officer always cautions us to prepare for the unexpected crisis by stocking survival items in our cars and homes. If you were on Earhart's mission what would you have taken with you?

## Reaching for the Sun: Just One More Quest for Earhart

Earhart's personal drive and energy, and the public adulation that followed each event spurred her on to greater heights. Her accomplishments continued to cry out for another challenge, another first, and even more acclaim as other women pilots, like Jacquie Cochran, chased fame and adventure. Some of Earhart's accomplishments are as follows:

-  Woman's world altitude record: 14,000 ft (1922)
-  First woman to fly the Atlantic (1928)
-  Speed records for 100 km (and with 500 lb (1931)
-  First woman to fly an [autogyro](#) (1931)
-  Altitude record for autogyros: 15,000 ft (1931)
-  First person to cross the U.S. in an autogyro (1932)
-  First woman to fly the Atlantic solo (1932)
-  First person to fly the Atlantic twice (1932)
-  First woman to receive the [Distinguished Flying Cross](#) (1932)
-  First woman to fly non-stop, coast-to-coast across the U.S. (1933)
-  Woman's speed transcontinental record (1933)
-  First person to fly solo between Honolulu, Hawaii and Oakland, California (1935)
-  First person to fly solo from Los Angeles, California to Mexico City, Mexico (1935)
-  First person to fly solo nonstop from Mexico City, Mexico to Newark, New Jersey (1935)
-  Speed record for east-to-west flight from Oakland, California to Honolulu, Hawaii (1937)



Photo Encyclopedia Britannica

The French Government conferred the Cross of the Knights of the Legion of Honor to Earhart in June 1932.

Earhart's final challenge proved fatal. The woman who was largely self-made, constantly sought ways to prove herself. Mary Earhart (Amelia) born July 24, 1897, accomplished an amazing lifetime of honors and awards, went missing July 2, 1937, and was declared legally dead January 5, 1939. The search for her remains continues. Many books and movies have been made of her Amazonian feats of courage. The most recent is *Amelia* starring Hilary Swank and Richard Gere.

## AWARDS & PROMOTIONS



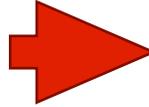
Squadron Meeting Photos by Arif Gezalov



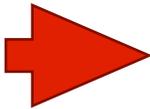
2d Lt Karl Feth is promoted to Major



SM Scott Lyons Completed LVI and was promoted to 2d Lt



SM Marcia Skinner completed LVI



Capt Lt Mike Linn received the Benjamin O. Davis Award for completing LVII.

## Presenter

Maj Andrew McKenna's quest for adventure to solve the century's most puzzling disappearance of an aircraft drove him to join a group of scientific mystery-solving specialists on no less than three missions with TiGHAR. The missions focused on the island Nikumaroro in the Republic of Kiribati in the Gilbert Islands. Clues continue to tantalize the Amelia Earhart expeditions that began back in 1937 when Earhart and her navigator, Fred Noonan were reported lost in the islands of the Pacific. The expeditions totaling in the millions of dollars continue to try to solve the mystery. Please see pp 1, 2, and 4.

Currently, Maj McKenna serves as Operations Officer at Boulder. He also has served as Squadron CC from 2000-2004. In the past he



has also been a Mission Pilot and also Mission Aircrew Qualified.

He was also featured in a 2007 *Airwaves* when TiGHAR was in search of a WWII downed P-38.

**MARK YOUR CALENDAR!**

Happy  
Birthday!



Randy Huiting  
SkipHyde  
Mike Linn  
Todd Sainer

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Jeffco Squadron Web site:  
<http://www.coloradowingcap.org/jeffco>

*Airwaves* Editor: [capnewsletter@mac.com](mailto:capnewsletter@mac.com)

**NOVEMBER**

18 Squadron General Meeting  
20 Squadron Exercise  
23 Orientation Meeting  
29-30 ICS 300, Salida Contact Mike McDonald at  
<http://www.coemergency.com>

**DECEMBER**

2 Staff Meeting  
4 Air Crew Clinic  
8 Mountain Flying Seminar \*\*  
18 Mountain Flying Clinic \*\*  
19 Christmas Party, Western Air Flight Academy,  
time 3:00-6:00 pm

ICS 300 and 400 available on request:  
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\*\* *Independence Aviation 303.858.1600*

**Colorado Pilots Association, CPA**, has numerous fly-in opportunities--many in Colorado, some out of state--too many to print here. For more information visit

<http://coloradopilots.org/>

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# Contributors

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CAPT P.D. SARGENT



PAO team leader, Dr. Sargent is responsible for the design and format of the newsletter. Tricia will be leaving the squadron Dec 31 to focus on the new family business.

Please contact her with suggestions or corrections 303.216.1931 [capnewsletter@mac.com](mailto:capnewsletter@mac.com)

1ST LT LUC MOENS



Senior Research Scientist, Chemist, at the NREL, in Golden, Dr. Moens is actively engaged in biofuel research. He enjoys educating the public about ongoing R&D. Please see his article on Maj Andrew McKenna on page 2.

He can be contacted at [lucmo@msn.com](mailto:lucmo@msn.com).

## PHOTOGRAPHER

2LT ARIF GEZALOV



With his experience and focus, he takes outstanding pictures of special events, meetings, SAREXs, and Civil Patrol life in general. Arif is the Senior Software Engineer at Webroot Software Inc. in Boulder. Please see his photos on pages 7.

*Thanks to proofreaders*

*Maj Bruce Hertelendy, and Dick Sargent.*

## LETTERS TO THE EDITOR

### Missing Mention

Hello, Interesting that *Airwaves*, pp. 1 and 4, mentions the presence at the RMMA Air Show of Army, Navy, Marines, Coast Guard, and Civil Air Patrol, but left out the Air Force, Air Force Reserve and Air National Guard (as well as the German Air Force! They all displayed interesting aircraft at the Air Show, though one wouldn't know without having been there, since none appear[s] in any of the photos. Just an observation. Victor

*Sorry, Victor, Mea Culpa. Sorry I missed some. I tried to emphasize the people who made the Air Show successful, ED*

### Commendations

Congratulations....Another winner!!! Fred McFarland

Tricia, HooRah -This was one of the best *Airwaves* I have seen. Skip Hyde

Tricia, What an excellent presentation and coverage of our CAP activities presented in a very professional, exciting, and readable newsletter. You are doing a marvelous job. Thank you. Sam

*Thank you all for your support. I try to be everywhere and do everything but often miss the mark. I hope November and December will be great. They will be our last Airwaves as I will be retiring at the end of December.*

Capt Patricia Sargent, PAO Team Leader and Editor.



## New Arrival!



Ryan Joseph Sainer entered the world October 12, at 2:46 am in Denver. He arrived weighing in at 7 lb. 5 oz. and measuring 20 inches long. Baby and Mom, Shannon, are healthy and doing great! Dad looks proud as punch! 2d Lt Todd Sainer is a member of the Public Affairs Team.