

A TODD DOUGLAS MILLER FILM

APOLOLO 11

FIRST STEPS EDITION

Production Notes

PRESENTED BY 
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ABOUT THE FILM

Timed to the 50th anniversary of NASA's celebrated Apollo 11 mission, ***Apollo 11: First Steps Edition*** is a thrilling cinematic experience that showcases the real-life moments of humankind's first steps on the Moon. In this special giant screen edition of Todd Douglas Miller's (*Dinosaur 13*) critically acclaimed *Apollo 11* documentary, the filmmakers reconstruct the exhilarating final moments of preparation, liftoff, landing, and return of this historic mission—one of humanity's greatest achievements, and the first to put humans on the Moon.

It seems impossible, but this project was possible because of the discovery of a trove of never-before-seen 70mm footage and uncatalogued audio recordings—which allowed the filmmakers to create a 47-minute version of the film tailored exclusively for IMAX® and giant screen theaters in science centers and museums. ***Apollo 11: First Steps Edition*** is produced by Statement Pictures in partnership with CNN Films. The film is presented by Land Rover, and distributed by MacGillivray Freeman Films.

"The Apollo 11 mission was humanity's greatest adventure and we're pleased to be bringing this edition to science centers and museums everywhere," says director Todd Douglas Miller. "This film was designed to take full advantage of the immersive quality of IMAX and giant screen theaters."

But how did it happen? How did this one-in-a-lifetime batch of footage remain undiscovered for fifty years? Miller explains that as his team was working closely with NASA and the National Archives (NARA) to locate all known Apollo 11 footage, NARA staff members simply discovered reels upon reels of 70mm, large-format Apollo footage. "It had been processed, archived, and forgotten," he says. The footage included stunning shots of the launch, the inside of Mission Control, and recovery and post-mission activities, all never before seen by the public—or, possibly, anyone. "The discovery added another dimension to the project," Miller says. "It was more than just a film now. It was an opportunity to curate and preserve this priceless historical material."

In addition to the new large-format footage, the archives contained 16mm and 35mm materials, some captured by the astronauts themselves. All of this film stock had to be digitized. Final Frame, a post-production house in New York City, helped create a prototype custom scanner for the job. The scanner was capable of high-dynamic-range scanning at resolutions up to 8K. The resulting transfer—from which the film was cut—is the highest resolution, highest-quality digital collection of Apollo 11 footage in existence.

It's hard to imagine that there's more to the story, but there is. Viewers who have seen footage of the world's first Moonwalk are familiar with the functional countdowns or brief transmissions between Mission Control and the astronauts. Around the world, people of all ages still recognize Armstrong's gritty communication, "It's one small step for man, one giant

leap for mankind.” However, imagine 11,000 hours of audio recordings—most previously known only by historians or NASA experts—that captured individual tracks from 60 key personnel throughout every moment of the mission. ***Apollo 11: First Steps Edition*** team members created code to restore the audio and make it searchable. It took years for the filmmakers to listen to and catalogue the recordings, an effort that yielded remarkable new insights into key events of the mission. Perhaps even more revealing are the glimpses into the human experience of the entire Apollo team. The audience hears their humor and camaraderie, and shares their tension and elation as the mission unfolds.

Miller decided to treat the process of constructing the film with as much uniqueness as the subject and the materials. While most documentaries include “talking heads” and recreations, he decided to work entirely from archival materials. Thanks to the non-stop audio recorded on site—which captured the singular voice of a designated representative from Mission Control—the entire immersive experience is “narrated” moment to moment.

Apollo 11: First Steps Edition brings to life what it was like when the space program was new, and when Apollo 11 was doing something humanity had never done before. Audiences are stunned, over and over, at how complex the mission was, how many times it could have failed, and how much technology, skill, foresight, and pure grit were required to succeed. We don’t simply feel like we’re watching; we’re *there*. No matter one’s heritage or country of origin, this culmination of President John F. Kennedy’s pledge to put Americans on the Moon by the end of the 1960s reflects a human accomplishment. Kennedy described it as a bold act of faith and vision—and ***Apollo 11: First Steps Edition*** reminds us of what humanity undertook to achieve one of the greatest and most complex feats in our history.

“When ***Apollo 11: First Steps Edition*** opens in museums and science centers around the globe starting in May, it will be the centerpiece of a vast series of celebratory programs and activities leading up to the 50th anniversary of this historic event,” said **Shaun MacGillivray**, President of MacGillivray Freeman Films, which is distributing the film. “We cannot wait to see audiences experience the thrill of walking on the Moon with Neil Armstrong and Buzz Aldrin, and becoming a part of history as the world celebrates this greatest of human accomplishments.”

Even for those well versed in the Apollo legacy, ***Apollo 11: First Steps Edition*** provides an unparalleled, never-before-seen, never-before-heard experience. Today’s audiences can join the millions of spectators around the world who took a giant leap into the future in 1969—but they can do it in high definition. They can do it larger than life, with ***Apollo 11: First Steps Edition***.

MAKING APOLLO 11: FIRST STEPS EDITION, WITH DIRECTOR TODD DOUGLAS MILLER

What is groundbreaking about this film, when it's compared to what we already know about Apollo 11?

TODD DOUGLAS MILLER: We know the "story" of Apollo 11—that it is one of the greatest achievements in human history. We know that it was the first mission to land humans on the Moon. At first, I thought the film primarily would be an editing exercise, and my initial question was: can we tell the entire story of the mission using only archival materials, or do we have to add something? However, our scope changed once we started looking at the enormous amount of available material—and truly understood that hundreds of thousands of people spread across tens of thousands of companies all had focused on putting the first humans on another world. Likewise, our project turned into a cooperative effort by an international team of experts to create the definitive work on Apollo 11 for the screen. The remarkable discovery of a cache of untouched large format film and audio recordings added another dimension to the project: it was more than just a film now. It was an opportunity to curate and preserve this priceless historical material. Once we had all the footage scanned, we spent about half a year recreating the entire nine-day mission in a real-time, nine-day cut of the film. We realized that no one but the people at Mission Control had seen what we were seeing—and we were seeing it fifty years later. Once we knew every moment of the story, and we could see the entire scope of the experience—then we began whittling it down.

Besides shortening the feature-length film to 47 minutes, how did you approach making this version for museums and science centers?

TDM: I've always been a fan of museums and science centers. From the beginning of this project, we were so excited at the prospect of making a version for this marketplace, because many of these theaters are in direct-line communication with NASA and NARA, our partners. So, when thinking about trimming the feature-length film, I was focused on telling the best story for the special enthusiasts who visit museums and science centers. My job was to ensure that the audiences who see the shorter version are getting a spectacular experience. We added a couple of unique shots to this special version, but mostly we thought about pacing and making sure that the 70mm footage was showcased. In addition, I wanted audiences to know that the same team who made the feature-length film also personally—by hand—created *Apollo 11: First Steps Edition*. I personally edited it, with this audience in mind. The museum and science center edition might be shorter, but it packs a giant punch.

Are the images in Apollo 11 really "never-before-seen"?

TDM: The majority of the footage is new—there were hundreds of reels that were marked "Apollo 11," or with the date of the launch, but none of the archivists even knew what was on them. In some cases, iconic images from the mission were familiar to us—but we had only ever seen them in 35mm. In all cases, after scanning the material, we were able to see the Apollo 11 mission in a brand-new way. I remember watching some of the brand-new

material as it was going through the scanner—aerial footage shot from a helicopter of the Saturn V on the crawler, going out to the pad. Standing there, seeing this footage for the first time, was like a religious experience. We were floored, speechless.

How in the world was this material “unknown” for fifty years?

TDM: From a technical standpoint, there wasn't a really good, efficient way to transfer or digitize it until our project came along. But it's a really a story about archive preservation. The fact that NASA and ultimately NARA preserved and curated these materials over decades speaks to the expertise of all the individuals involved. The plan they initiated 50 years ago worked.

Was this an emotional experience for you as a filmmaker, or were you mostly focused on the technical aspects?

TDM: There were many significant aspects of working with this iconic footage. One was simply being able to look at it all; another was the archival part, actually assisting with the curation of something so important. But what sticks with me the most is something I would never have realized until I saw it myself. There were two versions of the footage where the astronauts suit up, get in the Astrovan, drive the eight miles to the pad, go up the elevator, and sit on top of the rocket. In the first sequence, it's a dry run a few days before launch, and the guys are laughing and jovial, and they just come back down and go home. On the day of the launch, though, there was no joking. You could see the weight of what they were about to do, written on their faces. It snapped us into focus, seeing the responsibility they felt—what they were doing for all of us. For the spectators, it was the Super Bowl of all Super Bowls. But for the guys, and for the flight controllers, you could see what Walter Cronkite called “the hopes and burden” of all mankind.

There's spectacular footage of average Americans watching the launch from parking lots and Florida beaches – did you expect to find this kind of material?

TDM: We knew that some footage of spectators had been seen before, but I was blown away at what was there. We owe a debt of gratitude to the cinematographers who worked on *Moonwalk One*, a cult classic commissioned by NASA and released in 1971. For that project, they shot 65mm film—which was cropped to 35mm for the movie—of the launch, the control room activities, and the recovery at sea. Plus, those beautiful scenes at the beach and other public areas captured the estimated one million people who showed up for the launch. This was the largest number of people ever to show up for an event like this. The artistry of the entire group of cameramen is evident in all the cinematography.

The centerpiece of this movie is the Moon landing, and the Moonwalk – is there anything about the space segments that we're seeing for the first time?

TDM: Yes and no. Some of the space footage is not new, but no one in the world has ever seen it like this. Viewers will see it at the highest resolution possible. We also placed this footage into the context of the greater story—the story of the people in the rocket and

Mission Control, the experience of the people watching from the ground—and we step back into 1969. We're hearing what the scientists are saying, and seeing and hearing the error alarms buzzing. No one in the film is "looking back." No one is telling you a story of what happened before. Without the normal tropes of a documentary, this depiction of the Moon landing and the Moonwalk doesn't feel like you're watching history. It feels like you're making history.

We notice that you give the only woman in Launch Control some screen time. Was she making history?

TDM: Yes. That was JoAnn Morgan, a trailblazer in the US space program and the first female engineer at NASA. Apollo 11 was the first time she was in the Firing Room in the launch control center adjacent to the pad at Kennedy Space Center in Florida. She would go on to have a long career at NASA. Also, in the back room of Apollo 11's Mission Control in Houston was another woman, a 25-year-old mathematician named Frances "Poppy" Northcutt. We don't see her in the film, but we have audio of her interacting with flight controllers in the front room.

You're known for working with a small crew. Was it challenging to coordinate all the specialists on this production?

TDM: My primary production team is composed of a pretty lean crew I work with every day, and these are people I either grew up with or have worked closely with for years. However, a film like *Apollo 11: First Steps Edition* presents a unique situation. This film only exists because of the tremendous efforts and sacrifices of an extremely talented group of individuals, and it was exciting and fun to work with them. From the archivists and researchers, to the post-production teams and production partners, everyone labored for years to ensure we got it right. Plus, we are also indebted to the scores of writers, filmmakers, and researchers who have come before us to build on the canon of project Apollo. And to the astronauts, their families, NASA employees, contractors, and volunteers, many of whom we came to know in the course of making this film, we humbly say thank you. You remind us that great things can be accomplished when people unite for a common goal.

GETTING TECHNICAL WITH PRODUCER TOM PETERSEN

There is black-and-white and color footage, and the colors are extraordinary – it looks like vintage Kodachrome. Was anything restored to achieve this effect?

TOM PETERSEN: The 65mm and 70mm footage was perfectly preserved in cold storage at NARA and is remarkably pristine. Some of the interior shots (inside Mission Operations Control Room) were dark and shot at a lower frame rate, so we did some work to brighten where we could and do some time remapping. Many of the 16mm reels had been circulated a lot in the last 50 years, so there was some digital restoration needed on those. The end product is rich and vibrant. We've had viewers remark at how immediate the experience

feels. Our historical consultant, Robert Pearlman, said these scenes feel almost hyper-real. He said it looked state-of-the-art, as if we had just shot it with the highest-quality camera you can find today. When making this film, we knew that everyone watching would already know the ending—the astronauts will make it to the Moon and back. Usually, that isn't the greatest way to keep audiences on the edge of their seats. But with this amazing footage, it looks and feels like a live event unfurling in the present. Even though this was one of the most famous historical events ever recorded, it feels like something entirely new.

Was it difficult or daunting to handle this archival film footage in the digital age? How did you choose the process?

TP: We got very lucky there, since our post-production house, Final Frame, was just getting into the scanning business—at a time when other companies were moving away from working with film. In fact, Final Frame was just deploying new technology that would allow us to scan all the different formats in high resolution. They created a prototype machine that could handle all gauges of film—8mm, 16, 35, 65, 70—using optical pin registration rather than mechanical pin registration, minimizing wear on the film. NASA was eager to take advantage of this process to funnel all the footage they could find, because by scanning it, we were also conserving it. We were incredibly honored to be allowed to participate in this historically significant moment. Meanwhile, Final Frame principals said it was “inspiring” to scan what they considered the most important film in the world.

The audio is as powerful in the movie as the images. Is it also “new”?

TP: Certain mission highlights had been played and digitized—we're all familiar with commands like, “Go for landing,” or “Go for powered descent.” Historians knew that an enormous volume of audio tracks existed beyond those clips, but the bulk of the audio wasn't readily accessible or listenable. Over the last seven years or so, researchers in Dallas were digitizing the entire 11,000 hours of one-inch analog tapes. Then, for this project, technical consultant Ben Feist (who now works at NASA), undertook the herculean task of making the audio listenable and searchable. This required writing scripts that reassembled thousands of .wav files into single, long tracks that removed a persistent hum and flutter, as well as decoding the timecode track and inserting markers. The end result allowed him to line up the audio with Ground Elapsed Time of the mission. The list of Ben's contributions goes on and on.

But that wasn't all that had to happen. In those early Apollo missions, the footage had been shot with no sound. The only sources of audio were the communications channels, where flight controllers spoke to one another and to the astronauts, and some recordings that were made onboard the spacecraft. Our archival producer, Stephen Slater, has spent much of his adult life synching available audio to mission footage. With a vast knowledge of every aspect of the mission and all sources of footage and audio, Stephen was able to synch footage by referencing clues within a shot—a clock on the wall of Mission Operations Control Room, for example—and sometimes simply through an uncanny gift for lip reading. With the new sources of footage and audio, and the contributions of Stephen and Ben, we were able to

synch more shots than ever before, making it a seamless experience for the audience. Now viewers can watch and hear the astronauts and Mission Control talking to one another. Or hear relevant comments from the flight director's loop, where flight controllers were talking to the flight director, and the back-room audio loops coming from support staff. [To see and hear the entire mission—training missions, ancillary footage around liftoff, Mission Control, inside the modules, on the lunar surface, recovery, television broadcasts, everything, all nearly nine days of it, in real time—check apolloinrealtime.org. This is a searchable, educational website-on-steroids that Ben Feist is releasing before the anniversary date of July 16.]

What are some scenes that even a NASA enthusiast would not have seen before, in any format?

TP: A lot of the large format footage of the launch, the rollout of the Saturn V, the crowd shots (which are some of my favorites), and the footage captured aboard the USS Hornet has never been seen before by the public. Some of the footage that has been previously released to the public has never been seen in the original widescreen aspect in which it was captured, which is a whole different experience. These were extremely talented cameramen who knew how to frame a shot—and there is a real difference in watching the originals. Also, the impact of the additional audio sources cannot be overstated. Several hours before the launch, for example, we heard launch controllers at Kennedy talking about a leaky valve on the rocket's third stage and Todd was able to match that to the closed-circuit TV feed of technicians working quickly to fix it.

SCORING WITH MATT MORTON, COMPOSER

How did these amazing Apollo 11 images inspire the creation of your score?

MATT MORTON: At first, they were *too* inspiring. In the spring of 2017, when I found out I was going to have the honor of scoring this film, the historical importance of the Apollo 11 mission almost paralyzed me—how could I ever do it justice? And considering the huge number of films and film scores that had already been made on the subject, how would I find a unique way to score it? I read tons of books and watched and re-watched every documentary and narrative film about the Apollo Program that I could find. I revisited the music of the time, and the ways that authors and the general public reacted to the event when it happened. But what finally hooked me was how the astronauts were putting their neck on the line. You could see that what they were doing took guts. I wanted to touch on the sense of danger, and I wanted it be visceral. I tried to think about what it must have felt like to be one of those astronauts, each step of the way.

How did you get your music—which was written almost 50 years after the Apollo 11 mission—to work so well with the vintage footage?

MM: Since the entire film was comprised of archival footage from 1969, I had the idea that we should hear only sounds that could have been made at the time of the mission. The

Apollo Program was at the absolute cutting edge of science and technology. The sheer amount of money spent (around 3% of our GDP) and the number of people working on it (more than 400,000 people) have been credited with fast-forwarding the normal pace of technological innovation by about ten to twenty years. I started thinking about whether there were any parallels in the music world of the time. Were there any technological developments happening then that led to new types of music being made? And would any of that technology and music be useful in scoring a dangerous and heart-racing space adventure in a 6.5-million-pound rocket? Once I realized that I could actually create a score using only technology and instruments from the time, I was ready to begin.

What instruments did you use to create the score?

MM: My primary instrument (other than the orchestra) was the synthesizer, which, just like the Apollo Program, represented the cutting edge of technology in 1969. The sound fit in perfectly with the technological focus and futuristic look of our film, and it was having its “big bang” at the time due to the 1968 release of ‘Switched On Bach’ by Wendy Carlos which featured the Moog synthesizer. It had already begun enabling the development of a huge world of electronic and experimental music, and it started to be used on recordings by mainstream artists like The Beatles, The Who and Pink Floyd, as well as electronic music pioneers like Tangerine Dream, Isao Tomita and Kraftwerk. Once I made my decision, I got lucky. In 2017, Moog Synthesizers decided to reissue twenty-five of their classic Synthesizer IIIc modular synthesizers, using the same parts and construction methods they used back in 1968. I decided to make the (sizable) investment to buy one of them—and then combine it with other vintage pieces, including a Binson Echorec 2 (an early tube echo restored and modified by Soundgas Ltd.), a Mellotron (an early tape-based keyboard sampler), a 1965 Hammond A-143 Organ, a Leslie (rotating) Speaker, various guitar tube amps, spring and plate reverbs, early drum machines like the Maestro Rhythm King and Ace Tone Rhythm Ace, and an Echoplex EP-2 (a tube tape echo).

Was your mission to have the score sound like it was 1969?

MM: My original concept for the compositions was to make them sound like they were archival just like the film footage—to make them sound like they were written, played, and recorded in 1969 by musicians and engineers of the time. But then I realized I could never really do that. It wouldn't ring true, because as an artist, in order to get the best music out of myself, I have to stay authentic to myself and my tastes—and I live in the present. I wasn't born until 1977, and I didn't start playing my first instrument, guitar, until 1986. So I decided the most interesting thing I could do was to make modern compositions, but because I'd be using the instruments and effects of fifty years ago, they'd probably be a unique mixture of then and now and help to bridge the time gap between the people on the screen and the people in the audience.

GETTING HISTORICAL WITH ROBERT PEARLMAN, HISTORICAL CONSULTANT

As a NASA historian, what in your opinion are the most exciting features of this movie?

ROBERT PEARLMAN: Having worked with a lot of filmmakers over the years on various projects, I've had to take people to task before on claims of "never-before-seen footage"—maybe the general public hasn't seen the footage, but plenty of others have. For the first time, this is bona fide footage that we have not seen before, so the discovery alone was exciting. Add to that the latest in film technology, the ability to present this footage in high resolution, and large format, which looks amazing on the big screen and almost beyond belief in a large-format presentation. Simply being able to bring the mission back to life and see it on a scale this huge is probably the most exciting factor for me.

Why was the Apollo 11 launch so important in a historical context?

RP: The race to the Moon unfolded in what was a perfect storm of events in the late 1960s—if all those events had not occurred, we probably would never have reached the Moon. We didn't go because we were scientifically interested in the Moon—we went because we were in a cold war with the Soviet Union and it was a testament of our technological prowess that we could send someone to the Moon; it might have unfolded differently if this happened during peacetime. This was the crowning achievement of a race between two world powers fighting each other in a way that no one was actually hurt. From a cultural standpoint, the Moon has been a symbol of many different things to people throughout humanity. It has always been that unreachable world and we're fueled by the notion that if we can send a man to the Moon, we can do anything. In the time frame that it occurred, even with the backdrop of the Cold War, we also might not have gotten there were not for the very unfortunate assassination of John F. Kennedy, who—many people don't realize—was not actually a huge fan of going to the Moon. He saw it as a political need in order to beat the Russians. Almost from the point he announced the space race, he was working behind the scenes to try and find a way out of it, even asking the Soviets to partner with us. When he was assassinated, the mission became the vision and goal of a fallen hero, and it was untouchable from a political standpoint. Not going would have been seen as stomping on the legacy of a slain president. This was the culmination of a goal set out by someone that Americans, and the world, looked up to. If anything is going to be remembered about the 20th Century, it's going to be the fact that we took our first steps on another celestial body—because this is the future of humanity, the promise of going further. Apollo 11 was only the first step.

Fifty years on, where do we stand in terms of the space program?

RP: We've changed focus. Our original visions of how to go into space were not to go directly to the Moon, but with what came later, which was to establish a space shuttle and space station, then establish ourselves in orbit and go out even further. But a confluence of events changed our priorities. We haven't been back to the Moon since 1972, after the sixth Moon landing, but we're on the verge of returning—not as singular nations but in privatized

missions. We've come to the point where there are companies that are building the rockets that will take private citizens to the Moon. Countries like China are sending rovers to the far side of the Moon, where no one has ventured before—as recently as January 2019. Later this year, the first Israeli Moon lander will be launched from Kennedy Space Center here in the United States. So we're having a lunar renaissance in the way that we're having more and more countries and organizations sending missions to the Moon. Meanwhile, NASA is looking in coming years to send astronauts back to the lunar orbit in cooperation with its European, Canadian, Russian, and Japanese partners with the intention of pushing on to Mars. After 50 years, we're at a new crossroads where we're ready to travel beyond flags and footprints toward more permanent lunar settlement. Soon we'll have a lasting presence there, pushing out into the solar system with the goal of always having humans exploring space.

(END OF CONVERSATION. FILMMAKER BIOS FOLLOW.)

FILMMAKER BIOS

TODD DOUGLAS MILLER - DIRECTOR, PRODUCER, EDITOR

Todd Miller is best known for his Emmy® award-winning film, *Dinosaur 13*, which premiered at Sundance in 2014. His other films include *Gahanna Bill*, *Scaring the Fish*, and *The Last Steps*. He is the founder and co-owner of Statement Pictures, based in Brooklyn, New York, which produces feature films and documentaries, as well as large format/IMAX films for science centers and museums. He was born in Columbus, Ohio, and lives in Brooklyn, New York, with his wife and three children.

THOMAS PETERSEN - PRODUCER

Thomas Petersen is a producer, DP, and co-owner of Statement Pictures. He was born and raised in New Orleans and studied journalism before moving to New York City in 2003. Previous documentaries include *The Last Steps*, *The Acquired Savant* (his directorial debut), and the Emmy award-winning *Dinosaur 13*. He lives in Brooklyn, New York.

EVAN KRAUSS - PRODUCER

Evan Krauss, a founding partner of the New York-based law firm Gray Krauss Sandler Des Rochers LLP, concentrates his practice on music, film, television, and new media. Evan works with songwriters, composers, recording artists, music and film producers, writers, directors, and both studio and independent content producers. As a natural extension of his law practice, Evan has also worked as a producer on various film projects, with a concentration in non-fiction. Evan's various executive producer and producer credits include the documentaries *Hot Girls Wanted* (Netflix Original), *The Lost Arcade*, Showtime-acquired films *Porndemic* and *Godfathers of Hardcore*, and the cult classic *Cropsey*.

MATT MORTON - COMPOSER

Matt Morton is a composer, multi-instrumentalist, and engineer/producer. He was a founding member of the band The Shantee, and has opened for bands including George Clinton and Parliament-Funkadelic, The National, and the Neville Brothers. His film credits include *Scaring the Fish*, *Beauty of the Fight*, *The Last Steps*, and the Emmy-award-winning *Dinosaur 13*. He was born in Columbus, Ohio, where he lives with his wife, Jen, and a studio full of instruments, including the 1968 Moog Synthesizer IIIc that he used for the *Apollo 11* score.

ROBERT PEARLMAN - HISTORICAL CONSULTANT

Robert Pearlman is a space historian, journalist, and the founder and editor of collectSPACE.com, an online publication and community devoted to space history, with a particular focus on how and where space exploration intersects with pop culture. Pearlman is also a contributing writer for Space.com and co-author of *Space Stations: The Art, Science, and Reality of Working in Space*, published by Smithsonian Books in 2018. He previously developed online content for the National Space Society and Apollo 11 Moonwalker Buzz Aldrin, helped established the space tourism company Space Adventures, and currently

serves on the History Committee of the American Astronautical Society, the advisory committee for The Mars Generation and leadership board of For All Moonkind. In 2009, he was inducted into the U.S. Space Camp Hall of Fame in Huntsville, Alabama.

STEPHEN SLATER - ARCHIVAL PRODUCER

Stephen Slater has had an interest in space travel and documentary filmmaking from an early age while growing up in Derbyshire, England. Beginning his television career in sports production, the two fields combined in 2011 when he produced and directed the BBC FOUR documentary *Destination Titan*, about the Huygens probe landing on Saturn's largest Moon, Titan. Since then, his love of historic footage has seen him specializing as an archive producer for a series of high-profile feature documentaries, including *The Last Man On The Moon*, *George Best: All By Himself*, and the BAFTA Award-winning *Hillsborough*. He is a specialist in the NASA film archive, and in 2011 was nominated for the Arthur C. Clarke Award for Achievement in Space Media.

BEN FEIST - AUDIO RESTORATION / TECHNICAL CONSULTANT

Ben Feist is a software engineer at NASA who splits his time between Johnson Space Center in Houston and Goddard Space Flight Center in Greenbelt, Maryland. Ben has spent his career creating technology experiences since the birth of the Internet, and is the Apollo program historian behind the interactive website Apollo17.org, a web experience that recreates the last mission to the Moon in real time. Ben's work at NASA focuses on future missions, solving the many data management and visualization challenges that will face us when humanity once again ventures on to other planets.

AMY ENTELIS - EXECUTIVE PRODUCER

Amy Entelis is executive vice president for talent and content development for CNN Worldwide. She is based in New York. Soon after her arrival in 2012, Entelis began shaping a renaissance at CNN, initiating the hires of more than thirty television journalists and scores of contributors and commentators, as well as launching four premium content brands for the network's global platforms. Under her leadership, CNN launched CNN Films, which produces and acquires documentary films for festival, theatrical, and broadcast distribution; CNN Original Series and HLN Original Series, which develop non-fiction programming; and CNN Films Presents, which acquires encore runs of notable documentary features for broadcast on CNN. Entelis began her illustrious career in television journalism at ABC News, initially as a producer on the weekly news magazine *20/20*, and later a producer for *World News Tonight with Peter Jennings*. Following ABC News, and before she joined CNN, Entelis served as executive vice president for talent strategy at Sucherman Consulting Group. A graduate of Vassar College, Entelis received a Master of Science degree in journalism from Columbia University and serves as a member of the Board of Visitors of the Columbia University Graduate School of Journalism.

COURTNEY SEXTON - EXECUTIVE PRODUCER

Courtney Sexton, who joined CNN in 2013, works day-to-day with filmmakers to supervise the production of documentary films for theatrical exhibition and distribution across CNN's platforms. Since Sexton joined CNN Films, the team has acquired, co-produced, or commissioned more than forty original feature and short films, including *Halston* and *Apollo 11*. The multiyear collaboration with director Todd Douglas Miller for the production of *Apollo 11* follows Sexton's and Miller's successful collaborations for the News & Documentary Emmy® -winning *Dinosaur 13*, and *The Last Steps*, a documentary short film about the final NASA lunar mission, Apollo 17, which was distributed by Great Big Story. In 2018, Sexton served as executive producer for *RBG*, directed by Betsy West and Julie Cohen, and *Three Identical Strangers*, directed by Tim Wardle.

ALEXANDRA HANNIBAL - COORDINATING PRODUCER

Alexandra Hannibal is associate director of content development for CNN Films. She is based in Los Angeles. Hannibal joined CNN in 2016 and is responsible for supporting the development and acquisitions of CNN Films titles, taking the lead on vetting incoming submissions, and identifying the next generation of documentary directors for CNN Films. As coordinating producer for *Apollo 11*, Hannibal collaborated with director Todd Douglas Miller for more than two years on the development of the feature. In addition to *Apollo 11*, Hannibal worked with Miller on the documentary short film *The Last Steps*, about the final NASA lunar mission, which was distributed by Great Big Story.

JOSH BRAUN - EXECUTIVE PRODUCER

Josh Braun is the co-president of Submarine Entertainment, a hybrid sales, production, and distribution company. Submarine's recent series titles include *Wild Wild Country*, *Evil Genius*, and *The Keepers*. Recent sales titles include *Three Identical Strangers*, *Shirkers*, *The Oslo Diaries*, *Crime and Punishment*, *White Tide*, *Pick of the Litter*, *Kusama: Infinity*, and *Apollo 11*. Submarine has been responsible for the sale of five out of the last eight Academy Award-winning documentaries: *Citizenfour*, *20 Feet From Stardom*, *Man on Wire*, *The Cove*, and *Searching for Sugar Man*.

(END OF FILMMAKER BIOS. ASTRONAUT and CREW BIOS FOLLOW.)

ASTRONAUT AND CREW BIOS

BUZZ ALDRIN

Buzz Aldrin (formerly Edwin E. Aldrin, Jr.), one of the first men to land on the Moon, was born in Montclair, New Jersey, on Jan. 20, 1930. Aldrin attended the U.S. Military Academy at West Point and entered the United States Air Force. He flew 66 combat missions in Korea and, after a tour of duty in Germany, went on to earn his Doctorate of Science in astronautics at the Massachusetts Institute of Technology (MIT), writing his thesis on orbital rendezvous.

Aldrin became an astronaut with NASA's third group in October 1963. On Nov. 11, 1966, he orbited Earth with James Lovell aboard the Gemini 12 spacecraft and performed the first successful extravehicular activity (EVA, or spacewalk) during the mission that concluded the Gemini program.

As Apollo 11 lunar module pilot, Aldrin joined Neil Armstrong in achieving humanity's first landing on the Moon and exploration of the lunar surface on July 20, 1969.

In 1971, Aldrin resigned from NASA and a year later, retired from the U.S. Air Force with the rank of colonel. A self-described "Global Stateman for Space," Aldrin has devoted his activities in the years since to advocating for human space exploration. He has authored 10 books (including four about his experiences on the Moon), and established the ShareSpace Foundation and Aldrin Space Institute at the Florida Institute of Technology.

Aldrin also devised the "Aldrin Mars Cypher," a spacecraft system with perpetual cycling orbits between Earth and Mars. He has received three U.S. patents for his schematics of a modular space station, reusable rockets and multi-crew modules for spaceflight. Aldrin currently serves on the Users Advisory Group for the National Space Council.

NEIL ARMSTRONG

Neil Alden Armstrong, the first human to walk on the Moon, was born in Wapakoneta, Ohio, on Aug. 5, 1930. After serving as a naval aviator from 1949 to 1952, Armstrong joined the National Advisory Committee for Aeronautics (NACA) in 1955. His first assignment was with the Lewis Research Center (now NASA Glenn) in Cleveland, Ohio. Over the next 17 years, he was an engineer, test pilot, astronaut and administrator for NACA and its successor agency, the National Aeronautics and Space Administration (NASA).

As a research pilot at NASA's Flight Research Center at Edwards Air Force Base in California, Armstrong was a project pilot on many pioneering high-speed aircraft, including the X-15 rocket plane. He flew more than 200 different models of aircraft, including jets, rockets, helicopters and gliders.

Armstrong was selected with NASA's second group of astronauts in 1962. His first assignment was as command pilot for Gemini 8. Launched on March 16, 1966, Armstrong and David Scott performed the first successful docking of two vehicles in space.

As spacecraft commander for Apollo 11, the first crewed lunar landing mission, Armstrong gained the distinction of being the first person to land a craft on the Moon and first to step on its surface.

Armstrong subsequently held the position of Deputy Associated Administrator for Aeronautics at NASA headquarters in Washington D.C. In this position, he was responsible for the coordination and management of overall NASA research and technology work related to aeronautics. He left NASA in 1971 to become a professor of aerospace engineering at the University of Cincinnati. From 1982 to 1992, Armstrong was the chairman of Computing Technologies for Aviation, Inc. in Charlottesville, VA.

He received a Bachelor of Science degree in aeronautical engineering from Purdue University and a Master of Science in aerospace engineering from the University of Southern California. He was bestowed honorary doctorates from multiple universities.

Armstrong died on Aug. 25, 2012, following complications resulting from cardiovascular procedures. He was 82.

MICHAEL COLLINS

Michael Collins, who circled the Moon during the first crewed lunar landing, was born on Oct. 31, 1930 in Rome, Italy. Collins attended the U.S. Military Academy at West Point, New York, where he received his Bachelor of Science degree. Prior to joining NASA, Collins served as a fighter pilot and an experimental test pilot at the U.S. Air Force Flight Center at Edwards Air Force Base in California. From 1959 to 1963, he logged more than 4,200 hours of flying time.

Collins was named an astronaut with NASA's third selection group in October 1963. He first served as a pilot on the Gemini 10 mission, which launched on July 18, 1966, setting a new world altitude record with crewmate John Young and becoming the United States' third spacewalker, completing two extravehicular activities (EVAs).

As Apollo 11 command module pilot, Collins remained in lunar orbit aboard the spacecraft "Columbia," while Neil Armstrong and Buzz Aldrin became the first people to walk on the Moon in July 1969.

In January 1970, Collins left NASA to become the Assistant Secretary of State for Public Affairs. A year later, he joined the Smithsonian Institution as the first director of the National Air and Space Museum. While in that position, he was responsible for the construction of the

new museum building, which opened to the public in July 1976. In April 1978, Collins became Under Secretary of the Smithsonian Institution.

In 1980, he became the vice president of the LTV Aerospace and Defense Company, resigning in 1985 to start his own firm.

Collins wrote about his experiences in the space program in several books, including *Carrying the Fire*, widely considered the best-written astronaut memoir.

JOANN H. MORGAN

JoAnn H. Morgan (Born Dec. 4, 1940) was the first female engineer at Kennedy Space Center and the only woman to be working at a console in the Firing Room for the launch of the Apollo 11 mission on July 16, 1969. She went on to be the first woman senior executive at Kennedy, later serving as the acting deputy director of the center.

EUGENE F. "GENE" KRANZ

Eugene F. "Gene" Kranz (born Aug. 17, 1933) served as a flight director in Mission Control during the Apollo 11 first landing on the Moon. NASA's second flight director, Kranz is best known perhaps for leading Mission Control in the safe return of the Apollo 13 crew after a mid-flight explosion crippled their spacecraft on the way to the Moon.

CHARLIE M. DUKE JR.

Charles M. Duke, Jr. (born Oct. 3, 1935) served as the capsule communicator ("CapCom") in Mission Control during the Apollo 11 first landing on the Moon. A member of NASA's fifth group of astronauts, Duke went on to become the tenth and youngest person (to date) to walk on the Moon as lunar module pilot of Apollo 16 in April 1972.

(END OF ASTRONAUT AND CREW BIOS. PRODUCTION PARTNERS FOLLOW.)

PRODUCTION PARTNERS

Statement Pictures

Statement Pictures LLC was formed in 2011 in Brooklyn, New York, to produce independent feature-length motion picture films and visual content. It is co-owned by filmmakers Todd Douglas Miller and Thomas Petersen. The company's first feature film, *Dinosaur 13*, premiered on opening night at the 2014 Sundance Film Festival and was acquired by Lionsgate and CNN Films for theatrical and broadcast exhibition, winning an Emmy® Award for Outstanding Science and Technology Programming.

CNN Films

CNN Films produces and acquires documentary feature and short films for theatrical and festival exhibition and distribution across CNN's multiple platforms. **Amy Entelis**, executive vice president of talent and content development, oversees the strategy for CNN Films; **Courtney Sexton**, vice president for CNN Films, works day-to-day with filmmakers to oversee projects. For more information about CNN Films, please visit www.CNN.com/CNNFilms and follow [@CNNFilms](https://twitter.com/CNNFilms) via Twitter. In addition to [*Dinosaur 13*](#), directed by Todd Douglas Miller, recent acclaimed CNN Films include: [*RBG*](#), directed by Betsy West and Julie Cohen; [*Love, Gilda*](#), directed by Lisa D'Apolito; and [*Three Identical Strangers*](#), directed by Tim Wardle.

DISTRIBUTOR

MacGillivray Freeman Films

MacGillivray Freeman Films is the world's foremost independent producer and distributor of giant-screen 70mm films with more than 40 films for IMAX and giant-screen theatres to its credit. Throughout the company's 50-year history, its films have won numerous international awards including two Academy Award® nominations and three films inducted into the IMAX Hall of Fame. MacGillivray Freeman's films are known for their artistry and celebration of science and the natural world. It is the first documentary film company to reach the one-billion-dollar benchmark for worldwide box office.

(END OF PRODUCTION PARTNERS. CREDITS FOLLOW.)

APOLLO 11: FIRST STEPS EDITION CREDITS

DIRECTOR

Todd Douglas Miller

PRODUCERS

Todd Douglas Miller

Thomas Petersen

Evan Krauss

EXECUTIVE PRODUCERS

Amy Entelis

Courtney Sexton

Josh Braun

COORDINATING PRODUCER

Alexandra Hannibal

EDITOR

Todd Douglas Miller

MUSIC

Matt Morton

SOUND DESIGN/ RE-RECORDING MIX

Eric Milano

IMAX/LARGE FORMAT MIX

Brian Eimer

ARCHIVE PRODUCER

Stephen Slater

HISTORICAL CONSULTANT

Robert Pearlman

AUDIO RESTORATION/ TECHNICAL CONSULTANT

Ben Feist

FILM RESTORATION AND POST SERVICES

Final Frame Post

Will Cox

Sandy Patch

A TODD DOUGLAS MILLER FILM

APOLOLO 11

FIRST STEPS EDITION

Apollo 11: First Steps Edition is a Todd Douglas Miller film produced by Statement Pictures in partnership with CNN Films and presented by Land Rover. It is distributed by MacGillivray Freeman Films.

RUNNING TIME: 47 minutes

RATING: not rated

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