

February 2019

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American Institute for
Aeronautics and Astronautics,
Los Angeles-Las Vegas Section

Special AIAA Screening of “Chesley Bonestell: A Brush With the Future”

By Douglass M. Stewart
Film Producer/Writer/Director



Left to right: Tim Branning, Kristina Hays, Douglass Stewart and Robert Friend discuss the film “Chesley Bonestell: A Brush With The Future” in the post-screening Q&A
Photo: Kenneth Lui, Events/Programs Chair, AIAA Los Angeles-Las Vegas Section

The campus of California State University at Long Beach (CSULB, alma mater of Steven Spielberg) was the site of a special screening put on by the AIAA’s Los Angeles-Las Vegas Section on Saturday, December 1, 2018. The film being screened was the award-winning documentary “Chesley Bonestell: A Brush With The Future.” Bonestell is best known for his iconic “Saturn As Seen From Titan” (1944), and it’s been dubbed “The Painting That Launched A Thousand Careers.” Some people recognize his art but not his name. Fortunately, over half of the audience gathered for the screening knew of the man and his impact on the history of aerospace.

On hand for the screening was the film’s producer/writer/director Douglass M. Stewart, Jr. along with some of his key crew members: Co-Editor Kristina Hays and Principal Director of Photography, Timothy Branning, a CSULB graduate himself. Moderating the event was Robert (Bob) Friend, Chair of the AIAA Los Angeles-Las Vegas Section and Chief Engineer at Boeing Phantom Works Space Systems. Bob confessed that he didn’t know who Chesley was before seeing the film, but he really enjoyed the documentary. *(continued on page 6)*



The AIAA Los Angeles-Las Vegas Section is grateful to Millennium for sponsoring the AIAA Los Angeles-Las Vegas business meetings!

Interplanetary Spaceflight: Implications of Fifty-Eight Years of Human Space Experience

AIAA Los Angeles-Las Vegas Dinner Meeting, January 16, 2019

By Janet W. Tarjan, Ed.D.

Mathematics Professor, Bakersfield College since 1986

Dr. James S. Logan, MD, MS, President, CEO & Co-Founder of Space Enterprise Institute and the former Chief of Medical Operations at NASA Johnson Space Center, spoke to an interested and engaged audience of AIAA members and guests on the exciting topic “Interplanetary Spaceflight: Implications of Fifty-Eight Years of Human Space Experience” on January 16, 2019. For approximately 2 hours, Dr. Logan informed, entertained and taught our diverse group of interested scientists, educators, and students. Dr. Logan has received NASA’s Distinguished Speakers Award and has presented lectures in 17 countries. We were delighted with the amount of information and explanation he provided in our one evening together.

Dr. Logan quickly established his training, credentials, and his love of space and all things space related. He was 18 years old when the Apollo 13 crew and Earth-based team members worked together to get home safely. He knew immediately that this was what he wanted to do with his life! It took over a decade to prepare and finally secure his dream job of being the flight surgeon on the flight deck with the same Flight Deck commander who had served during the Apollo 13 mission. The Mantra on the Flight Deck under this commander was: “In God we trust. In all else, bring numbers.” Dr. Logan explained that the flight deck commander was “God” on the flight deck. Even the President of the United States could not overrule the flight deck commander. Dr. Logan was the only medical doctor in the room as the flight surgeon.

Dr. Logan introduced the “bottom line” fact for the evening that we humans are unprepared for deep space travel. “Space doesn’t give a damn about ideology, it’s always trying to kill you.”



Speaker James Logan, MD, MS

Photo: Kenneth Lui

We have had much human experience in space over the last 57 years. We collectively have accomplished more than 275 space missions, including 565 crew members totaling 145 person-years of space experience. Six Apollo missions logged 300 hours on the moon with two-person crews collecting 600 surface hours and 162 hours of extra vehicular activity. The average surface time per Apollo lunar astronaut was approximately 2.08 days with average surface EVA per astronaut of 13.5 hours.

However, the experience has been overwhelmingly near-Earth experience, not deep space travel. No human being has traveled farther from the Earth than the distance between the Silicon Valley and Los Angeles in 47 years. The International Space Station is located within the Earth’s atmosphere.

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Business card, quarter page, half page, and full page.

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Space Weather and its Implications:

AIAA Los Angeles-Las Vegas Dinner Meeting, December 4, 2018

By Monica Maynard

Science Teacher, Bell Gardens High School

Photos: Kenneth Lui, Events/Programs Chair, AIAA Los Angeles-Las Vegas Section

Space Weather is a topic that is extremely important, although it is not on everyone's radar. The information provided at this talk by Dr. Tamitha Skov (Research Scientist, The Aerospace Corporation) puts everything we know about technology in perspective: from how satellites are affected by the phenomenon to how communication is disrupted during solar events. As an earth scientist, I am interested in learning about the risks and effects of space weather in our everyday lives. As a high school educator, the information provided is valuable and of utmost importance to pass on to our students.



Dr. Skov's presentation inspired me to design a project for my students in which they themselves researched the topic of space weather and focused on how one sector, for example food or water, would be affected in case of power outage due to a solar event. The students then attempted to mitigate scenarios that would arise by the disruption. Lastly, the students went out to other classrooms to inform other students and teachers.

Space weather is an emerging science, and just like weather on earth, it is constantly changing and we

need to pay attention to it. The presentation was amazing and informative and gave all the attendees, no matter what their background, something to think about. As mentioned in the talk, this is a grassroots topic and I'd like to think that I'm doing my part to help the cause.

Dr. Tamitha Skov is a space weather physicist. You may recognize her from TV shows she has done for The History Channel and The Weather Channel. She has been featured in Popular Science Magazine, and she does regular Space Weather broadcasts on TWiT TV. She wants to open your world to a new kind of weather that's becoming important to our daily lives.

Article author Monica Maynard attended California State University, Los Angeles, where she received her BS in Geological Sciences and also a Single Subject Teacher Credential in Geosciences. She has been a teacher in the Montebello Unified School District since 2007, where she has taught Geology, Earth Science, General Science, Intro. to Engineering and AP Environmental Science.



If we want to succeed with human travel in deep space, Logan convinced us that we need to understand more about what goals we truly want to establish. Humans have expanded their ability to survive by establishing new places to live. The survival of the human race beyond Earth's ability to sustain us will require us to move to other places in space. The obvious question is where are potential inhabitable places and what do we need to learn to live there? The current collective wisdom is that Mars is an obvious choice because of its proximity to Earth and its potential similarities with Earth.

Logan then explained how we are unprepared to travel to Mars. To do so, he provided a historical comparison. First, he described how humans adapted to the hostile environment of ocean water by developing protective environments and methods of travel. Second, he compared different types and purposes of human travel: exploration, settlement, and ultimately the establishment of new communities and civilizations. Likewise, in space travel, we will need to anticipate, understand, and counteract the dangers of the environment, and understand our purpose in space travel.

Before we can plan and implement potential projects and stages of exploration, Logan suggests that we humans need to decide the purpose and intent of our exploration and travel. Our choices include no human travel at one extreme and the establishment of self-sustaining human settlements, including the building of families and communities, at the other extreme. Between these extremes we have the potential to visit Mars and return to earth after collecting samples of soil and running experiments and collecting data to be studied on earth so that we learn as much as possible. If we decide to include human travel in our goals, we need to know if we are just establishing outposts or if we plan to go and stay without returning home to Earth or without getting supplies routinely sent by Earth to inhabitants of the outposts. Robots and helicopter-like drones without human travel will help us learn a great deal, and we will have shorter preparation time for our projects. If we want to secure the continuation of the human race by establishing new living environments and self-sustaining communities, we aren't even close

to being ready and we will need life scientists and engineers of all types to be part of the discussion. These questions need to be answered so that appropriate steps may be taken to learn about and prevent potential threats to human life.

So, we are "ready" to tackle, discuss, and potentially take on "deep space travel." Logan asks if we are planning to go "boldly where no one has gone before?" Or are we ignoring known dangers in deep space reality and sending human space travelers there before we figure out ways to protect them from those dangers? He stressed the need for physicists and engineers to listen to and trust life scientists when they argue for protection of human life in planning deep space travel.

Dr. Logan introduced that some of the most important "biomedical showstoppers" include "Regolith Hazards," "Radiation," "Hypogravity," and "Synergistic Effects." The size and danger of solar storms are one of the biggest unsolved problems facing those planning for human deep space travel. While the human trips to the Moon were between solar storms, the 450 days to and from Mars with a potential of 900 days or more on Mars while waiting for the next "bus" home make exposure to devastating solar storms unavoidable.

Another of the best understood but least solved problems is the dangerously high level of solar radiation outside the protection of the Earth's atmosphere. Dr. Logan explained the Risk of Exposure Induced Death measure (REID) as "a statistical approach pegged to a single radiation effect: DEATH from cancer directly attributable to the exposure." In 1989, NASA accepted standards to protect astronauts. These were adjusted in 2000 to decrease the time required to reach the human limits of radiation exposure, based on better understanding of the danger of radiation. However, NASA's standards have not been updated since then. To protect humans on Mars according to the 2000 standards, any living and working quarters must be at least 12 feet below the surface. If NASA abandons the stance of protecting the space traveler and adopts a policy of having astronauts sign "informed consent

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Interplanetary Spaceflight

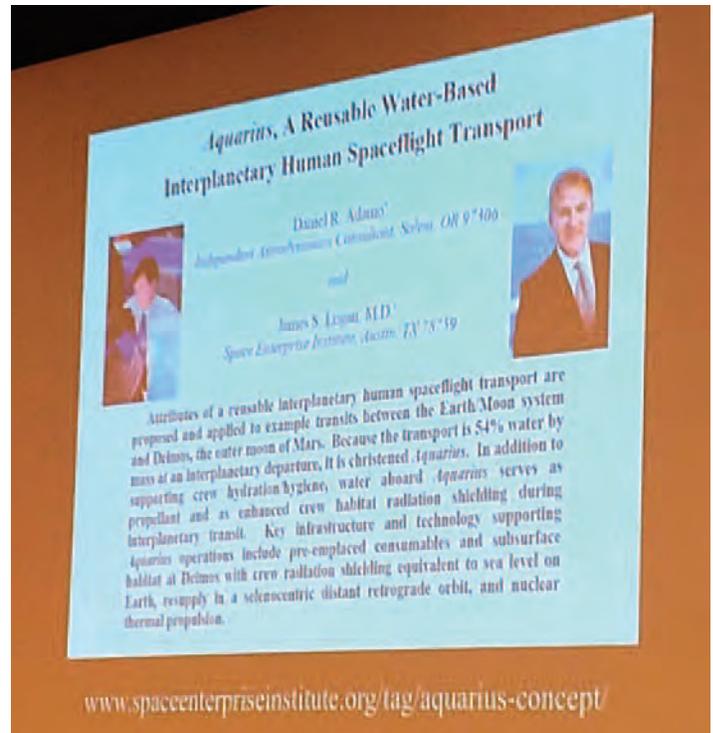
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forms,” many astronauts could die, much like Magellan losing 80% of his group to scurvy during ocean travel 500 years ago.

Traveling and living without Earth’s gravity has well-documented dangers, including severe and irreparable reduction of bone density, as well as visual impairment, now named “Spaceflight-Associated Neuro-Ocular Syndrome.” Potential “solutions” to the loss of bone density include building spinning spherical or cylindrical living spaces and regular exercise. However, while these actions help postpone loss of bone density, they still do not prevent it. Current proposed solutions are hopeful, but they may not be enough given the distances and time involved in interplanetary travel. Much work remains to be done in understanding causes to changes in vision in order to propose strategies to prevent impairment.

Dirt, dust, and large scale dust storms in space and on Mars interfere with both humans and machines. After just a few days of lunar dust, equipment such as viewing windows of space helmets, the space suits themselves, and any moving pieces of machinery were rendered useless. Human lungs will have trouble with tiny dust particles that have a large surface-area-to-volume ratio, like lunar dust, Mars dust, and space dust in general. Logan discussed a particular group of miners on Earth who all died within 5 years of exposure to fine dust after significant exposure over a short period of time. The dust storms on Mars as evidenced in our photographs of Mars are huge, long-lasting, and capable of destroying human life.

In summary so far, Dr. Logan presented insurmountable evidence that we humans are unprepared for deep space travel. However, just as we thought his final message for the evening would be that it would be impossible to successfully tackle deep space travel and live to tell about it, Dr. Logan offered the suggestion that we abandon the goal of traveling to and setting up human outposts on the planet Mars for that of a better goal: traveling to and setting up human settlements on Mars’ moon Deimos, the third largest Near Earth Object. By choosing a non-planet as a target, many of the problems of deep space travel are mitigated.



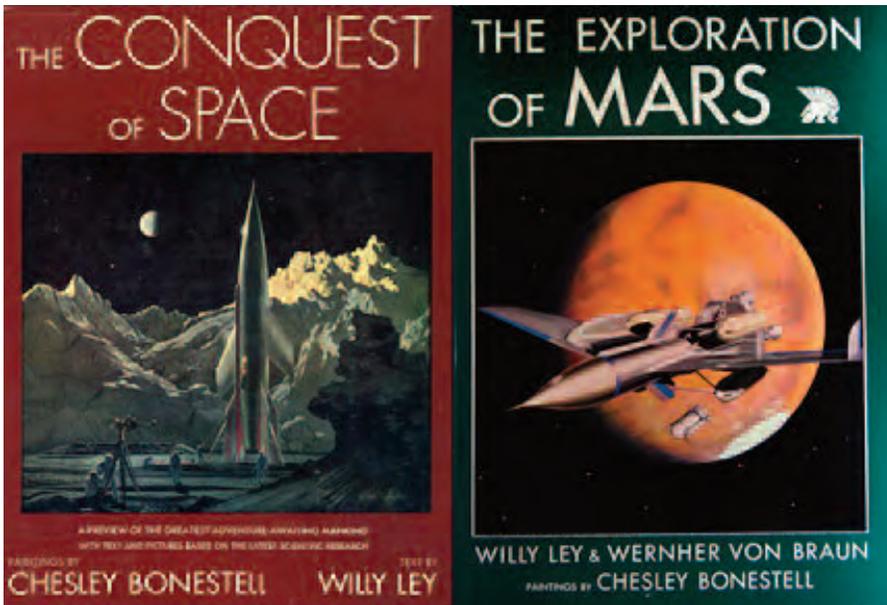
A new mode of travel to protect humans from radiation and hypogravity. Photo: Kenneth Lui

Deimos meets the “Logan Settlement Criteria” for “The Perfect Place” because of its unique combination of available resources, round trip “light time” of 0.13 seconds, frequent repeatable launch windows (every 2.14 years), light travel distance of near the moon, and no significant gravity (escape velocity of 12.5 mph). Because of its locked orbit around Mars at a distance of 20,000 km, a settlement on Deimos could help achieve all Mars surface exploration objectives with short-term travel rather than the current anticipated 9-year travel requirements. We would be able to drill out a cylindrical on Deimos and build spinning living environments for humans in this core. Then, short human or robotic travel excursions could be made to the Mars surface and back. The location and design of the living environment would provide just the needed protection from solar storms and regular solar radiation like our Earth’s atmosphere does. The spinning living environments would mimic earth’s gravity and enable bones to keep their needed density. Landing and leaving the new target would be easier with fewer dust storms.

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“Chesley Bonestell: A Brush With the Future”

(continued from page 1)



Top left: “The Conquest of Space” (1949).

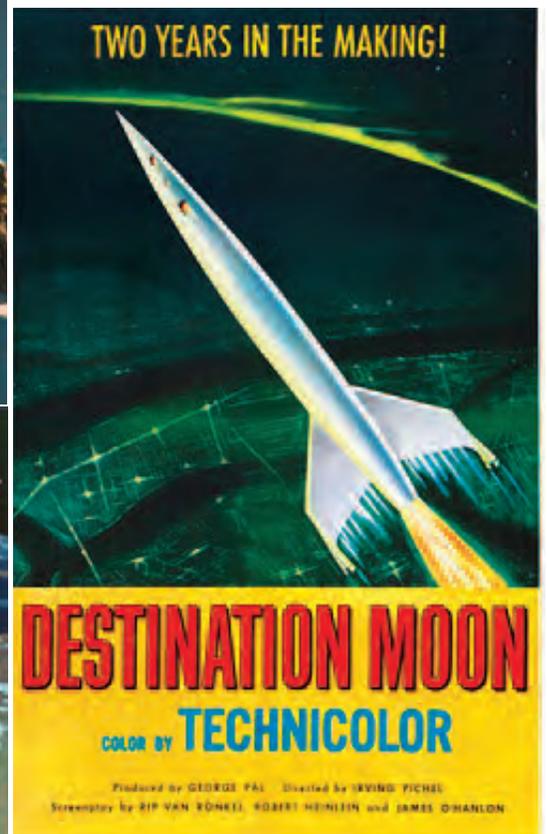
Top center: “The Exploration of Mars” (1956).

Center left: “Saturn As Seen From Titan” (1944), otherwise known as “The Painting That Launched A Thousand Careers.”

Bottom left: “Space Station, Ferry Rocket, and Space Telescope 1,075 Miles above Central America” (1952).

Bottom right: “Destination Moon” movie poster (1950).

Images are all courtesy of Bonestell LLC. (Story continued on page 8)



Systems Engineering Forum The Aerospace Corporation, El Segundo, CA February 12-14, 2019

8:00 AM - 5:00 PM Pacific Time
The Aerospace Corporation
A1 Meeting Center
2310 E. El Segundo Blvd.
El Segundo, California 90245
310-336-5000

Registration is open for the Systems Engineering Forum: to be held on February 12-14, 2019 at The Aerospace Corporation. This System Engineering Forum capitalizes on three previous Model Based SEFs and related forums to bring together representatives at all levels to share their experiences, lessons learned and challenges in MBSE, applying it to space systems, and addressing it within the large scope of their enterprise. Join leaders across the MBSE community to share enablers for increasing the velocity of developing space systems capabilities. Learn strategies for addressing challenges and barriers with implementation of model-based engineering approaches.

U.S. Citizens only. U.S. Government civilians and military, Federally Funded Research and Development Centers, University Affiliated Research Centers, contractors, subcontractors, suppliers, vendors, and academia.

This event will feature tutorials, keynote, stakeholder panels, plenary sessions, workshops, and vendor exhibitions highlighting services and products through live demonstrations and presentations at both the unclassified and classified levels. Tracks include vendor presentations against use cases, government service/agency track on model-based enterprises, industry presentation on enterprise examples, and professional societies on their roadmap of model-based efforts. These will address key concepts such as the creation of digital threads, use of digital twins, and use of digital artifacts from the authoritative source of truth.

For additional details, view the Systems Engineering homepage: <https://bit.ly/2Mby4Hg>

Interplanetary Spaceflight

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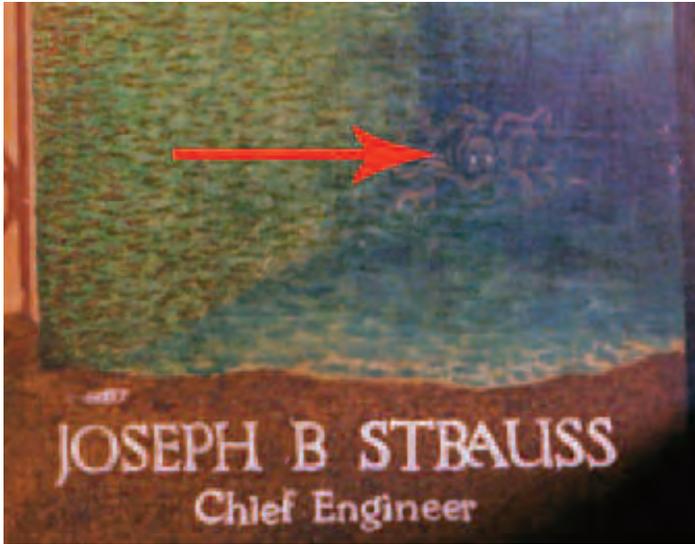
In addition to changing the intended target from Mars to Deimos, Dr. Logan recommended a complete overhaul in the vehicles used for human transport. He recommended a new mode of travel to protect humans from radiation and hypogravity. He referenced "Aquarius, A Reusable Water-Based Interplanetary Human Spaceflight Transport" by Daniel R. Adamo (Independent Astrodynamics Consultant, Salem OR 97306) and James S. Logan, M.D. (Space Enterprise Institute, Austin, TX 78759) and shared the basic findings that will help protect humans as they travel long distances in deep space.

With honest multidisciplinary discussion of goals and adequate time to prepare, scientists will be able

to mitigate the limitations and hazards of traveling and living in space. By asking the right questions, choosing the right target, and working together, we humans may successfully adapt to deep space travel.

Many thanks to Dr. Logan and the AIAA Los Angeles-Las Vegas Section for a wonderful evening!

Article author Janet Tarjan is a space enthusiast who loves the outdoors, bicycling, hiking, and playing with her grandchildren. She enjoys helping students learn mathematics so that they can pursue their dreams.



The octopus on Chesley's technical illustration of the Golden Gate Bridge. *Photo: Robert E. David*

"Chesley was not only a visionary artist, but he led an extraordinary life. This film is amazing!"

Chesley Bonestell (1888-1986) lived until the age of 98, and, during those years, he worked as an architectural designer on the Chrysler Building and the Golden Gate Bridge before moving to Hollywood and working for the major studios. Bonestell became one of the highest-paid special effects matte artists, leaving his imprint on films such as "The Hunchback of Notre Dame" and "The Fountainhead." In "Citizen Kane," he created Xanadu, the famous castle that is seen throughout the movie.

The documentary explores Bonestell's creation of a series of paintings that depicted what it would be like to visit the planet Saturn and its moons. When the paintings were published in Life Magazine 1944, they caught the hearts and imaginations of a war-weary American public. Bonestell pointed them to something now called "The Final Frontier." He would go on to work with rocket scientists Willy Ley and Werner von Braun, taking their formulas and equations and turning them into inspiring masterpieces. He would also illustrate books such as "The Conquest Of Space." In the film, rocket engineer Rocco Lardiere reveals that his career in aerospace took off when he saw "The Exploration of Mars" in a museum book-

store. He was just eleven at the time but never forgot Bonestell's paintings.

Countless others were influenced by Chesley's cinematic contributions to films such as "Destination Moon," "When Worlds Collide" and "War of the Worlds." Although Chesley did not work on "2001: A Space Odyssey," in the film, Douglas Trumbull elaborates on Bonestell's influence on director Stanley Kubrick.

The film features rare audio interviews and footage of Bonestell that have been locked away for decades. "This film was a real treasure hunt, trying to find any trace of this man that history has mostly forgotten," said Stewart. Twenty-four individuals are featured, all



Chesley's matte painting of Xanadu for the film "Citizen Kane." *Image courtesy of Bonestell LLC*

of whom either knew Bonestell or were profoundly influenced by him. "The film took 3 ½ years to make, and I traveled from coast-to-coast doing those interviews," Stewart added.

Building rockets and launching satellites has its challenges and so does filmmaking. Director of Photography Tim Branning told stories of the difficulties of low-budget filmmaking that often include unforeseen events. "We were shooting in an office building in San

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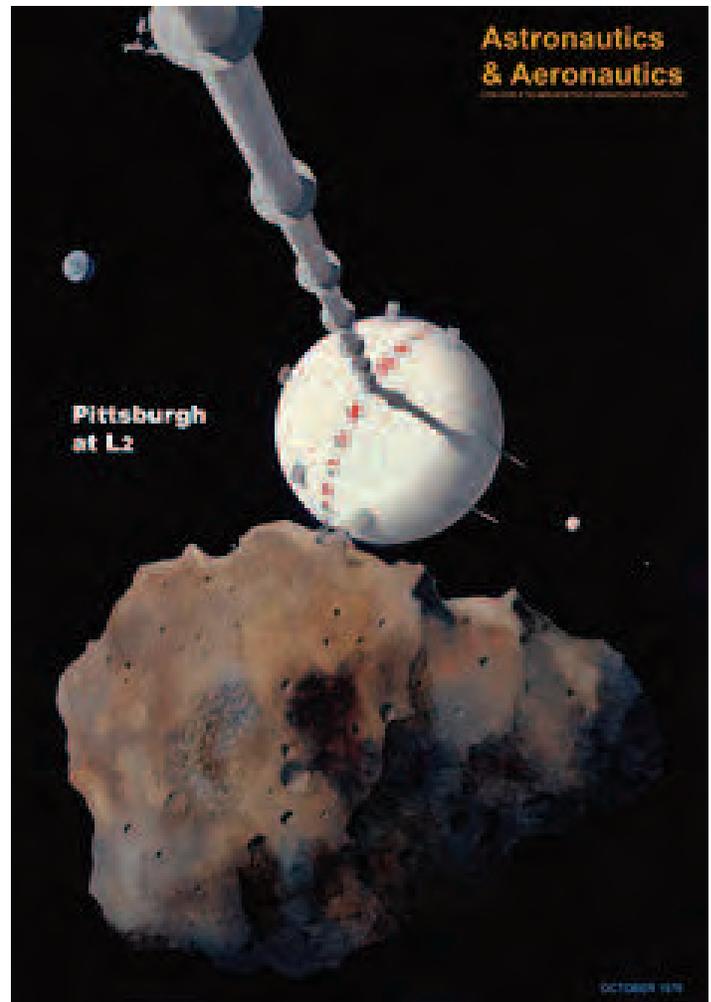
Francisco, and we happened to pick the Saturday that a number of buildings decided to test their back-up generators. The noise just about ruined everything, but, fortunately, there were times they took breaks.” Stewart told the audience that basically his job was to “take civilians who were not used to being on camera and turn them into movie stars.”

Co-Editor Kristina Hays pointed out the value of having the talent retell something several times during a shoot. “That way, we can work around all kinds of editorial problems and tell a great story.”

The film reveals a connection with Bonestell and the AIAA. Stewart said, “I was shown a painting that Chesley had given to NASA, but no one knew anything about its history. As it turns out, Bonestell had painted it for the cover of the October 1976 issue of *Astronautics and Aeronautics* magazine. I think it’s extraordinary that here I am, showing this film to AIAA members!”

The audience response to the movie was most enthusiastic. One couple remarked: “We both absolutely loved the film! It is one of the best documentaries about a person we have ever seen.” There was a lot of laughter during one part of the film where Bonestell points out an octopus he had painted into a technical illustration of the Golden Gate Bridge. He told photographer Robert E. David, “That’s my caricature of the Chief Engineer, Joseph Strauss.” During the Q&A, Bob Friend said, with a chuckle, that he could relate to that part of the film. “As a Chief Engineer at Boeing, I am known for getting my tentacles into everything.”

“Chesley Bonestell: A Brush With The Future” has won an Audience Award at the Newport Beach Film Festival and was named Best Documentary at Comic-Con in San Diego. The film is co-produced by renowned space artist Ron Miller and Bonestell historian Melvin Schuetz, both of whom collaborated on the definitive biographical book called “The Art of Chesley Bonestell.” “This film could not have been possible without their generous assistance and guidance,” said Stewart.



Chesley Bonestell’s painting of “Pittsburgh at L-2” used on the October 1976 cover of *Astronautics and Aeronautics* magazine.
Image courtesy of Bonestell LLC

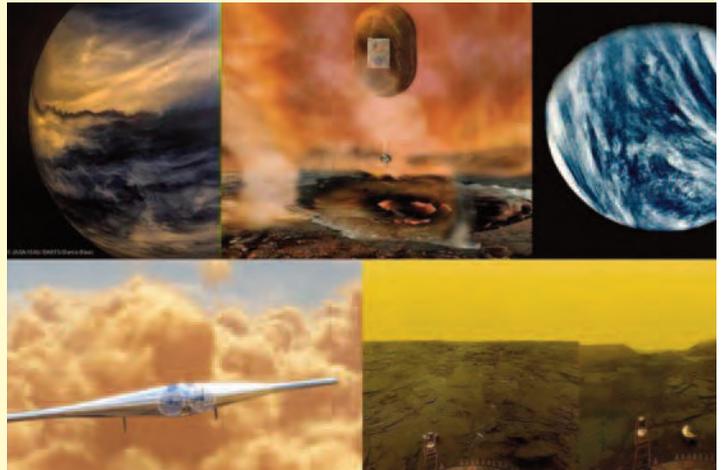
Next year, there will be a lot of celebrating of our landing on the moon a half-century ago in 1969. This film tells an unknown side of that story, particularly with the way Chesley painted his lunar landscapes. We won’t spoil things, so you’ll have to see the film. For now, it’s only shown at special screenings. Stewart hinted that there are theatrical showings in the works for several West Coast cities in the New Year. He urged people to check out his website for future showings at <http://www.chesleybonestell.com>.

This screening was produced by AIAA Los Angeles-Las Vegas Events Chair Kenneth Lui, who was assisted by the AIAA CSULB student branch.

AIAA LA-LV Section Dinner Meeting
Saturday, February 9th, 2019

Venus, the Stranger Next Door: *57 Years of Space Exploration to Earth's Twin Sister*
Dr. Thomas Navarro
Postdoctoral Researcher, UCLA

Our species' exploration beyond Earth orbit started in 1962, when the Mariner 2 spacecraft sent to Venus did the first flyby of another planet. Since then, not less than 27 probes successfully reached the planet, unraveling a strange world, with unique features in the Solar System. Under a thick, permanent cover of sulfuric acid clouds lies a slowly retrograde rotating solid body, showing signs of aborted plate tectonics on a geologically fresh young surface. As of today, crucial science questions of this neighboring world still remain to be answered despite its proximity. How did Venus come to be the way it is today? What can it tell us about planetary evolution on the verge of the exoplanet revolution? How can we explore this hellscape in the 21st century? Technological challenges and scientific exploration await for future endeavors.



Click here to register and for more information: <https://conta.cc/2S61IsR>

Lawndale Library

14615 Burin Ave

Lawndale, CA 90260

(East/North of 405 Hwy, South of 105 Hwy, and West of 110 Hwy) (Near the cross-section of Hawthorne Blvd. and Rosecrans Ave.)

Parking

Parking lot behind the Library, or street parking near the Lawndale Community Center and the City Hall. Lawndale Community Center parking lot might be limited.

Saturday, February 9, 2019, 10:00 AM - 1:00 PM (Presentation starts at 11:00 AM)

(Ticket sale will end after Thursday, February 7, 2019)

Dress Code

Business Casual

Contact events.aiaalav@gmail.com or (949)426-8175 if any questions

AIAA LA-LV Section Dinner Meeting Wednesday, February 20

Evolution to Electric & Hybrid Aircraft

Dr. Evgeni Ganev

Chief Engineer for Electromechanical Power Systems at Honeywell Aerospace

The electric and hybrid aircraft are becoming a reality at a very fast pace. At the same time, there are many problems that need to be resolved to progress successfully and affordably. Various elements of the existing and future architectures will be reviewed. Systems and components like electric drives, power sources, distribution busses, environmental and thermal control, electric rotating machines, power electronics will be reviewed and needs for improvements targeted. Examples will be revealed.



Various subjects will be discussed, including:

Why Electric and Hybrid Aircraft?

Typical Attributes of E&H Aircraft

Challenges Resulting from E&H Aircraft Implementation

Heritage from Traditional MEA and Progression to E&H Aircraft

Architectural Solutions

Components Solutions

Progression Examples

Summary / Conclusions

Click here to register and for more information: <https://conta.cc/2G9oWm2>

Manhattan Beach Library

1320 Highland Avenue

Manhattan Beach, CA 90266

(South of 105 Hwy and West of 405 Hwy/Pacific Coast Hwy (1))

Parking

<http://www.citymb.info/home/showdocument?id=7678>

(Lot 8 - Free - 10 hour limit, Lots 5, 6, 14, & 15 - \$.75 per hour - 2 hour limit)

Wednesday, February 20, 2019, 5:30PM - 9:00PM (Presentation starts at 6:45 PM)

(Library closes at 9:00 PM, but the networking can continue in the patio.)

(Ticket sale will end after Monday, February 18, 2019)

Dress Code - Business Casual

Contact events.aiaalav@gmail.com or (949)426-8175 if any questions

AIAA LA-LV Section Mini-Conference Series

Saturday, March 2, 2019

AIAA LA-LV University Student Branches Mini-Conference (with Industrial, STEM, & YP sessions)

AIAA CSULB, UCLA, UNLV, USC Student Branches

AIAA University / Student Branches are important and integral parts of AIAA & its Professional Sections. They are vibrant with aerospace activities and their pursuit of the aerospace careers, knowledge, and skills. Please join us to learn more about the exciting activities and projects with the AIAA LA-LV University / Student Branches.

You will have the opportunities to:

- Show support for our Section University Student Branches, whose members are the future backbone / rising stars of aerospace and AIAA

- Learn more about the LA-LV Section University Student Branches, and meet the students

- Q&A session with a panel of professionals on anything relevant to college students (school-life balance, work-life balance, transition to professional life, networking, finding a job, extracurriculars, summer experiences).

- Learn more about the LA-LV Section University Education activities

- Learn more about the local aerospace industries and the possible involvement with the AIAA students

- Network with some of our section University Branch students, their professors, AIAA members, aerospace professionals, business leaders, educators, students, and enthusiasts

- Learn how the STEM K-12 could be inspired by the AIAA Student Branches

- Learn more about the AIAA LA-LV Section STEM K-12 efforts and some local STEM K-12 activities

- (Please contact us (see contacts below) if you/your organization would like to have an exhibition table, or present proper related paper/posters in this mini-Conference)

Click here to register and for more information: <https://conta.cc/2UAr17d>

Hawthorne Community Center

3901 W El Segundo Blvd

Hawthorne, CA 90250

(Right behind SpaceX)

(South of 105 Hwy, East/North of 405, West of 110 Hwy)

Free on-site parking

Saturday, March 2nd, 2019, 8:45 AM - 3:30 PM (Presentation starts at 9:30 AM)

(Ticket sale will end after Thursday, February 28, 2019)

Dress Code: Business Casual

If any questions, please contact

AIAA LA-LV Education/STEM K-12 Chair aiaa.lalv.stem@gmail.com

AIAA LA-LV Events/Program Chair, LA events.aiaalalv@gmail.com or (949)426-8175