

# Projections

Spring 2013

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## 2013 marks the 50th anniversary of the James S. McDonnell Planetarium



Since the James S. McDonnell Planetarium's doors opened on April 16, 1963, more than 18.5 million people have experienced a connection with astronomy, space exploration and aviation through a visit to this iconic structure. Though visitors first experienced the Planetarium in April of 1963, city leaders had discussed the possibility of a Planetarium since at least the 1930s. In 1955, St. Louis voters approved \$1 million toward the cost of building a planetarium in Forest Park. During construction, James S. McDonnell, the chief executive of McDonnell Aircraft Corporation, made a gift to cover additional costs.

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# A Note from Laura Misajet



## News & Notes

### From Laura Misajet

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This *Eureka* moment was brought to me by the IMERSA Summit, February 2013:

It's not everyday I return home from a conference so inspired that I immediately log on a website and order something. Well, maybe it is, but this time was different. I was blown away by this teeny weeny itsy bitsy digital camera, and it was one that I could actually afford. The first day at the IMERSA Summit started out like any other, albeit it was Valentine's Day, we were treated to one presentation after another on amazing topics such as: "Screening of Live-Action Movie Sequences" presented by Jim Arthurs, Matt Mascheri, Brad Thompson and Michael Daut; "Seeking the 'Ideal' Fulldome Camera" presented by Jim Arthurs; and "Shooting Live Action Fulldome" by Matt Mascheri. Something caught my eye. What's this, a little digital camera that can fit in the palm of your hand that can shoot up to 240 frames per second, 4K cinema fisheye, and is waterproof?

Then at lunch, there it was, now in the palm of my hand. Chris Hill, from SlicedTomato Productions showed us the GoPro HERO3. He had outfitted his with a 180 degree fisheye lens for shooting hi-res stills and video for the dome. Still in disbelief, I got to press the bottom as those of us around the lunch table slightly leaned in and voila! There it was: a perfect, high resolution, dome-ready fisheye.

The GoPro can shoot a 90, 120 or 170 field of view, and depending on the resolution, you can shoot at ultra fast speed. Slow-motion aficionados will appreciate the HERO3: Black Edition's 1080p-60(fps), 720p-120(fps), WVGA-240(fps), 960p-100(fps) and 1440p-48(fps) video modes. Those desiring a more cinematic look will appreciate the ultra-high resolution. In photo mode, you can now burst capture 12MP at 30 frames per second and have speed options for time-lapse. Included with the Black Edition is built-in Wi-Fi and a remote control. There is also a GoPro App that enables full camera control and scene preview on any compatible device such as a smartphone or tablet. The basic camera does not come with an LCD touch screen but is available as a removable accessory, but I recommend ordering it along with the camera so you can frame your shots, preview and playback video. The camera also comes with a waterproof housing making it even more versatile, and you can get all sorts of mounts for cars, bikes, helmets, even a chest mount harness – you know – for those times you're skydiving, bungee jumping, wake boarding, etc – your average weekend.



If you want to be inspired to get off the couch and close the laptop now and then, check out the Videos and Photos of the Day at [www.gopro.com](http://www.gopro.com).

Now I just need an exciting life to capture!

Chris Hill at SlicedTomato posted a helpful Do-it-yourself full dome conversion guide on his site at:

<http://www.fulldomevideos.com/fulldome/do-it-yourself-gopro-fulldome-conversion>

Including a helpful video from <http://www.youtube.com/watch?v=EYjugMBJ8II>

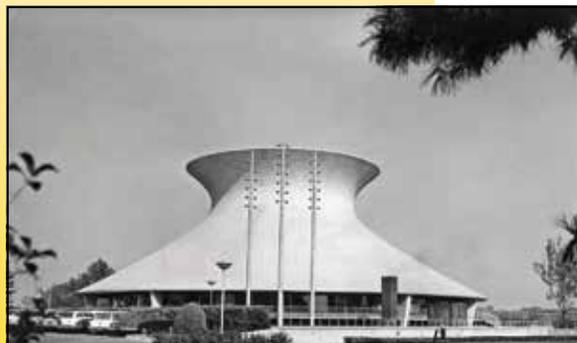
So get out there and bring your story to the dome!

*Laura*

## 50th anniversary of the McDonnell Planetarium continued



When it opened in 1963, the James S. McDonnell Planetarium was one of only 11 large Planetariums in the United States. The space race was in full swing with President John F. Kennedy making the bold statement in 1962 that the United States would reach the Moon before the end of the decade. One month before the Planetarium opened, astronaut Gordon Cooper made history by becoming the first American to spend more than a day in space. He circled Earth 22 times in a Mercury spacecraft, Faith 7, which was built by workers in St. Louis at McDonnell Aircraft.



On the day the Planetarium opened to the public, crowds lined the path to the entrance of the distinctive hyperboloid structure. Designed by St. Louis architect Gyo Obata, of Helmuth, Obata and Kassebaum, the thin shell concrete structure rests on 12 pillars around the building. Except for the extreme top and bottom of the building, the shell is no more than three and one half inches thick anywhere. The Planetarium was quickly accepted as a local icon, soon gracing the phone book cover, local company reports and other publications.



Over the years, the Planetarium's exterior and interior have undergone restoration and renovation. It temporarily closed in late 1983 to prepare for a merger with the Museum of Science and Natural History then located in Oak Knoll Park. In July 1985, the renewed facility opened as the Saint Louis Science Center. In early 2000, the Planetarium again closed for a major renovation and reopened to the public in June 2001 with the Carl Zeiss Universarium star projector as its centerpiece. From its initial opening in 1963 through its re-openings in 1985 and 2001, the Planetarium continues to be a state-of-the-art facility from which to experience the mystery and vastness of the universe.



The 50th anniversary is an opportunity to look back not only over the Planetarium's past, but to develop and launch plans for its future as well. Perhaps most importantly, the Planetarium's 50th anniversary provides an opportunity for the Science Center to thank the St. Louis community for its support over the last half century.



### Sources

*"Celestial Showplace", Monsanto Magazine, Spring 1963*  
*McDonnell Planetarium Fact Sheet, internal document, ca. 1980*  
*O'Neil, Tim; "A look back: Planetarium here beamed its first star show this week in 1963", April 12, 2009, stltoday.com.*



## 50TH ANNIVERSARY

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JAMES S. MCDONNELL PLANETARIUM

### JOIN THE PARTY IN 2013!

- March 22** Planetarium Cheap Date Night: Vernal Equinox
- April 5** First Friday: Aliens and Astronauts, Celebrating the Planetarium!
- April 13 to 21** Planetarium Celebration Week  
Space-themed OMNIMAX® movies, 50 cent admission to Planetarium Shows, Special Guest Planetarium Show presenters, Behind-the-Scenes Planetarium tours, Planetarium 50th Anniversary Exhibition opens
- April 13 & 14** Hands-on activities and special guests
- April 15** Science with the Symphony: Voyager - The Golden Record
- April 16** Presentation: Fifty Years of Astronomy, Charles Schweighauser, first Planetarium Director
- April 20** Astronomy Day with evening Public Telescope Viewing
- July 20** To the Moon! Celebrate the anniversary of the moon landing and launch a rocket!
- August 2** First Friday: Update from Mars with Dr. Ray Arvidson
- August 10** Planetarium Cheap Date Night: Perseid Meteor Shower
- October 12** International Observe the Moon Night
- November 4** Science with the Symphony
- November 9** Planetarium Cheap Date Night: A Rare Eclipse
- December 6** First Friday: Comet Watch Party

For more details about the Planetarium 50th Anniversary celebration, visit [slsc.org](http://slsc.org)



[slsc.org](http://slsc.org)

This year marks the 40th anniversary of the world premiere of LASERIUM, at Griffith Observatory. Those of us fortunate enough to have attended the IMERSA Summit last month at the Denver Museum of Nature and Science were treated to a talk by Ivan Dryer. I'd like to share Ivan's story.

~ Laura

## Happy 40th Anniversary LASERIUM®!



*Brian Wirthlin and LASERIUM creator  
Ivan Dryer at IMERSA in Denver, CO.*

In the summer of 1956 an aspiring young astronomer joined the staff of the Griffith Observatory and Planetarium in Los Angeles. Fourteen years later, I was still aspiring—but to be a filmmaker—and was then introduced to a laser for the first time. I had gone out to Caltech to film the off-hours artwork of laser physicist, Elsa Garmire. When the laser turned on so did I. I immediately knew where and what to do with it.

Within a month, in December 1970, a simple demonstration was given by the two of us to the Observatory staff. It would be for a one-hour live show with alternately filmy and neon-like laser patterns projected among the stars of the Planetarium sky. It would be called LASERIUM® (“House of the Laser”). The staff people liked what they saw ... but not enough. This was entertainment, not science. We were outsiders. The banks felt somewhat the same way. A one-hour show of abstract patterns of light with music? No story, no characters—no track record? No dice.

Three years later, a one-watt Krypton laser was borrowed for another demonstration at Caltech. Over a hundred people were invited. Only two showed—but they were the new Director and Head Lecturer at Griffith Observatory. A permit was issued for a test run, beginning with our world premiere on November 19, 1973.

My new partner, Charles McDonald, and I finished building and installing the Krypton laser projector at 5:00 a.m. the morning of the premiere. At 8:00 a.m. I appeared on a local TV show, and at 11:00 a.m. we held our press preview. It was also our first rehearsal, and it was terrible. Nonetheless, that evening 700 people came to see what this LASERIUM® was about.

At the conclusion of our four-week test period we were turning away 500 a show (so much for the banks.). Since then, 20 million patrons worldwide including 46 cities on 5 different continents—from Pittsburgh to Paris, from Boston to Buenos Aires, from Taichung to Tel Aviv—have experienced one of these amazing LASERIUM® shows, featuring rock, classical, jazz, and synthesized music, alone and in combination. I even remember an elderly woman telling me after a show that she previously didn't like rock music but now had an appreciation for it.

Because the laser colors (red, yellow, green, and blue) are so pure, the images appear three-dimensional and seem to be almost alive. The essentially abstract nature of LASERIUM® allows the audience to participate with their imaginations in helping create their own

*continued on next page*

## Happy 40th Anniversary LASERIUM®! continued

experiences. That, combined with the element of a live performer responding to audience feedback, makes for a lot of repeat customers—the LASERIUM® experience has always been unique.

Arts Magazine proclaimed in 1978 that “within LASERIUM® ... lie seeds of what will become the high, universally acclaimed visual art of the future.” And I take pride that LASERIUM® became the generic term for laser display and an icon referenced in other media, by other performers and in disparate contexts, from the New York Times to The Simpsons, Charlie Harper in Two and a Half Men to a Kenny Chesney concert review. I was personally tickled by my favorite Lois Lane in Smallville exclaiming, “Whatever’s going on in there, it isn’t LASERIUM®!”

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*“It has been said that in business it is best not to be first, best to watch someone else make the mistakes and then learn from them. Well, we certainly did mistakes, a lot of them—but I’ve never regretted being first.”*

*– Ivan Dryer*

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It is my opinion, and my dream, that future entertainment forms will build on LASERIUM’s environmental approach. With the advent of the scale, diversity, and technological quality that home entertainment, especially virtual reality, will offer in the next decades, the public will be coaxed to leave their personal media centers primarily for communal multimedia spectacles that are unreproducible at home. LASERIUM® is intergenerational. I take pride watching boomers who dragged their parents to our shows, then brought their own kids to see what thrilled them in the 70’s.

I’m gratified that we not only helped planetariums prosper (sometimes in spite of themselves), but that we may have helped light the way for your use of the dome as the setting for a unique and unmatched environmental medium—one that won’t fit in a hand-held tablet or even a home theater—and experience shared in person with dozens or hundreds of fellow humans. And finally, I’m delighted that we managed to enlist what was then a somewhat esoteric technological device that has been used to guide missiles and telescopes, to instead guide the neurons in millions of brains to dance synthetically in a fusion of image and music that enhances both—to create a machinery of joy!

For more information visit <http://www.laserium.com>

*Images courtesy of LASERIUM®*



# A New Experiment

by Brian Wirthlin

November 19, 2013 marks the 40th anniversary of a historic experiment at Griffith Observatory. A one month temporary lease was issued that allowed a small company to run a new kind of planetarium show. The shows were performed on four Mondays in a row, and on the last Monday they not only sold out, but turned away 500 people. It was an experiment destined to change the planetarium industry. Here was a show with goals both artistic and inspirational that drew crowds when most planetariums were either closed or had very light schedules. The show was called LASERIUM® and was destined to sell 20 million tickets in over 40 markets world wide. That one month experiment actually ran for 28 years.

Today Laser Light Shows in planetariums are common and perhaps more than a little passé. Today's prerecorded shows are the antithesis of the live artist performances that launched the genre. About ten years ago there was a post on line asking when the 1st break out laser show would happen. I had to write back and say it already had - back in 1973. I've long felt that something was missing from today's Laser Shows, and longed to perform the old shows live again. It's time for a new experiment...

The Saint Louis Science Center's McDonnell Planetarium will bring back the original LASERIUM®, performed live starting in April. LASERIUM® originally opened in St. Louis in June of 1975 and ran for 92 weeks (still selling out on the weekends.) before LASERIUM II premiered.

It's been a long journey to reprise this show. I first suggested the possibility in 2004, but last year the stars really began to align. The steps along the way included finding an original show tape that hadn't terminally succumbed to sticky shed syndrome. The show tape was the first of many hurdles. Since then things have fallen or at least been wrestled into line, and a new LASERIUM® premier is on the horizon.

The McDonnell Planetarium is uniquely structured in a way that will enhance the LASERIUM® audience experience. In the north of the theater is a projection balcony that will lift the laser projector 16 feet into the air - enough height to project over the Zeiss UNIVERSARIUM Projector and reach all the way to the dome's edge without shadows. This time the experiment is designed to answer two questions. First is there an audience for a 40 year old laser show that was created with art and inspiration at its heart, and second can we avoid taking the wrong path this time around?

"The best way to predict the future is to create it" - Alan Kay



## **Brian Wirthlin Bio:**

Brian Wirthlin began working at the McDonnell Planetarium bookstore while a freshman in high school. He attended the premier of Laserium in St. Louis in 1975. Four years later he became Chief Technician of the McDonnell Planetarium, and became the youngest Laserist ever hired by Laser Images. Brian performed in St. Louis, Chicago, Washington D.C. as a main Laserist, a variety of locations as a visiting Laserist, and later worked as Director of Production, Special Projects, and Field Service. Brian left Laser Images in 1984. This is Brian's 20th year working for Seiler Instrument.



## **The Best of Both Worlds!**

The Zeiss ZKP4 star projector delivers fiber optic stars, the same technology in the larger Starmaster and Universarium, now with brilliant LED high intensity lamps for domes 20 - 50 feet.

**Introducing: Velvet Duo Fulldome** for domes from 6 to 14 meters with either center or peripheal projection!

The two projection types work together as one, providing a complete planetarium solution.



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## UPCOMING EVENTS:

### AAM (AMERICAN ALLIANCE OF MUSEUMS):

The American Alliance of Museums (formerly the American Association of Museums) is an organization that supports all museums. Join us at the 2013 Annual Meeting & MuseumExpo set for Baltimore, May 19–22. The Alliance Annual Meeting is the premier professional development opportunity of the museum year, as some 5,000 museum professionals gather to network, grow and learn. This year's theme is The Power of the Story. "Museums are great repositories of memorable stories—in our objects and their creators, in our programs and the community members who benefit from them, in our institutional histories and the people who built, developed and continue to sustain our institutions today."

For more information and registration please visit:  
<http://www.aam-us.org/events/annual-meeting>

### JENA FULLDOME FESTIVAL:

7th Annual Jena FullDome Festival, May 29th - June 1st, 2013 at the Jena Zeiss-Planetarium in Germany will show professional, independent and student productions in different categories. The thematic focus for 2013 is on the concept of "Ornamental Dances," a term that may be freely interpreted in all categories.

The German States of Thuringia and Saxony are celebrating the 150th anniversary of the birth of the multi-talented artist Henry van de Velde in 2013. Henry van de Velde is famous for his Art Nouveau designs and ornaments at the turn of the 20th Century. The special theme of the 2013 FullDome Festival will no doubt inspire producers and students to translate Velde's philosophy and style into their fulldome vision.

One of the Festival sponsors is Toskanaworld GmbH, and Micky Remann. Micky presented at the IMERSA Summit in Denver and invited all those attending the Jena FullDome Festival to stop by Toskanaworld Spa where you can float in body-temperature thermal waters, enveloped in sound, color and light. It's the only thermal spa with a projection dome overhead for a totally immersive experience for all the senses.

For more information please visit:  
<http://fulldome-festival.de/festival-2013/>  
[http://www.toskanaworld.net/web/cz/therme\\_bad\\_sulza/home.asp](http://www.toskanaworld.net/web/cz/therme_bad_sulza/home.asp)

### CASC (CANADIAN ASSOCIATION OF SCIENCE CENTERS):

CASC 2013 Annual Conference is taking place June 13-15 at TELUS Spark in Calgary Canada.

The CASC 2013 Conference is an exploration of risk. From the extraordinary potential inherent in the decision to take a calculated risk to the courage and confidence risk taking requires; from the planning, execution and evaluation a risk demands to the ultimate impact risk-taking can have, this three-day conference will delve deeply into how science centres and museums address, leverage and mitigate risk. The goal: Exploring how we can learn and grow as an industry to ensure we thrive and remain relevant in our communities now and for the future!

<http://www.canadiansciencecentres.ca/?n=29-151-153&newsId=251>