




# DISCOVER

Science, Technology, and The Future

- 
- [Log In](#)
- [Subscribe](#)
- [Give a Gift](#)
- [Archives](#)
- [Customer Service](#)

SEARCH

- [Health & Medicine](#)
- [Mind & Brain](#)
- [Technology](#)
- [Space](#)
- [Human Origins](#)
- [Living World](#)
- [Environment](#)
- [Physics & Math](#)
- [Video](#)
- [Photos](#)
- [Podcast](#)
- [RSS](#)

## [Blogs / Bad Astronomy](#)

« [OK, so maybe we can be a \\*little\\* frightened. Careful, BCA, you might slip a disk!](#) »

## [LRO launches today at 21:12 GMT](#)



Digg

 [Stumble! Like?](#)

**[UPDATE (22:00 GMT): LRO launched successfully at 21:32 GMT, delayed 20 minutes by weather.]**

## Everything looks great so far!]

Reminder: LRO (NASA's latest Moon probe) is due to launch today at 17:12 Eastern time (21:12 GMT). There are two more launch windows today, one at 17:22 and the other at 17:32.

Follow the news on Twitter from [NASA](#) itself, from [the LRO feed](#), the [LCROSS](#) feed, or [from me](#).

I'm sure the launch will be on [NASA TV](#) as well.

June 18th, 2009 10:30 AM by [Phil Plait](#) in [NASA](#), [Space](#) | 39 comments | [RSS feed](#) | [Trackback >](#)

## 39 Responses to "LRO launches today at 21:12 GMT"

1. [hale bopp](#) Says:  
[June 18th, 2009 at 10:39 am](#)

According to the LRO website, launch is at 5:12pm EDT, 3:12pm MDT. Verified on the LCROSS website...think you may have been bitten by time zones!

2. [DrFlimmer](#) Says:  
[June 18th, 2009 at 10:44 am](#)

Indeed. Especially since 3:12pm Eastern would result in 19:12 GMT and 21:12 MEST (my local time which is 6h prior to Florida!).

5:12pm Eastern is the same as 21:12 GMT (which seems to be correct 😊) and 23:12 MEST.

3. [MarkHB](#) Says:  
[June 18th, 2009 at 10:50 am](#)

Holy Blap, we're going back to the moon today. That ROCKS! Or should I say "That regoliths!"?

4. [Sparky](#) Says:  
[June 18th, 2009 at 10:51 am](#)

I noticed that too, but Hale\_bopp beat me to it.

5. [Phil Plait](#) Says:  
[June 18th, 2009 at 10:53 am](#)

D'oh! Exactly right, I put in the wrong time zone. Fixed, and thanks.

6. [QUASAR](#) Says:



[June 18th, 2009 at 11:06 am](#)

I'll be watching it!

7. 7. *Charles Boyer* Says:

[June 18th, 2009 at 11:12 am](#)

2112, eh?

Pretty famous Rush album by that name, and it covers religion quite well:

We've taken care of everything  
The words you hear, the songs you sing  
The pictures that give pleasure to your eyes.  
It's one for all and all for one  
We work together, common sons  
Never need to wonder how or why.

We are the Priests of the Temples of Syrinx

etc. etc.

8. 8. *johan* Says:

[June 18th, 2009 at 11:40 am](#)

I'm sure we've been over this before but would this thing, or more specifically, the LROC be able to capture images of the lunar landers or vehicles? At least in theory? And I'm not hoping on debunking anything from the Lunies (pun intended), it's just that it would be so epically cool to actually see images of the things still up there!

9. 9. *Bob Portnell* Says:

[June 18th, 2009 at 11:54 am](#)

From what I heard on NPR last night, LRO has resolution to about a foot-and-a-half. So a rover or a LEM descent stage would show as a few pixels. A rover or a LEM descent stage throwing a long shadow would show as PLENTY of pixels.

Almost no chance of imaging a waving flag, though.

10. 10. *Alexander M* Says:

[June 18th, 2009 at 12:02 pm](#)

I'm having problems getting the public channel to play on nasa's site. the other channels work fine, is this issue isolated to me or are others having problems?

11. 11. *DrFlimmer* Says:

[June 18th, 2009 at 1:11 pm](#)

@ Alexander

I have those problems, too. But, if you search for a live stream, here is one:

<http://www.spaceflightnow.com/atlas/av020/status.html>

12. 12. *Torbjörn Larsson, OM* Says:  
[June 18th, 2009 at 1:25 pm](#)

BA twitters:

Stupid round planet

He, he! Don't you know that it is symmetry that makes the world go around?

[Only half kidding there. And btw, symmetry breaking is essential for physics as well.]

13. 13. *Jeff* Says:  
[June 18th, 2009 at 1:37 pm](#)

I'm still a little skeptical that men landed on moon, so when I see these lunar LEM images, that will remove my doubts. I'm always skeptical of government, because I've worked for it all my life, so I see the shenigans that go on. But that is a whole other issue....

But really, it is probably impossible that they didn't land on moon (1) moon rocks couldn't be faked (2) mission controllers couldn't have been deceived, (3) all those astronomers who tracked the moon missions all the way to moon, (4) laser reflectors still on moon (5) word of astronauts, they seem to be telling the truth (except Armstrong seems very quiet, what's up with him?, probably just a shy personality), (6) Soviet rock return samples match moon rocks, (7) videos could not be faked, look at "mythbusters" TV program and they show how in 1/6 g simulator, it looks exactly like the astronauts on moon (8) HB people really haven't proven beyond doubt that there are anomalies in the moon photos

It's probably likely that the moon HB people like Sibrel just found a market for selling videos with the duped so that is why they are doing this moon hoax stuff, for the oldest reason, just to hock books and videos, and always a gullible segment of public to fall for it.

14. 14. *Bob Portnell* Says:  
[June 18th, 2009 at 1:53 pm](#)

Newts. Just read the NASA Facts sheet on LRO. Its b/w hi-res cameras have 1 m resolution ... which would be barely enough to recognize a lander. Except they'll never be looking for landers — they're tasked for examining the polar regions, and the Apollo gear isn't there. The wide-area camera has 100 m resolution in multiple bandwidths ... all very pretty, but not sharp enough to close the case.

Phooey on NPR.

Jeff at (12): Mr. Armstrong has been a lot more public in the last few years, contributing to several documentaries and participating at public events. To which I say "yay!"

15. 15. *Jeremy* Says:  
[June 18th, 2009 at 2:37 pm](#)

Looks like we're probably going to get nailed by weather. ☹️

16. 16. *doofus* Says:  
[June 18th, 2009 at 2:43 pm](#)

@Jeff

I always have wondered, if it was a hoax, why didn't a single key-grip, or gaffer come forward and say, "Oh yeah, I wired the whole set".

17. 17. *BigBob* Says:  
[June 18th, 2009 at 2:44 pm](#)

I have both the Space Flight Now and the NASA TV public channels on my PC. My stop-watch says the SpaceFlightNow channel is about 30 seconds ahead of NASA TV. Same dialogue.

Really \*really\* can't get enough of this. Terrific.

Bob(ExtraBig)

18. 18. *BigBob* Says:  
[June 18th, 2009 at 3:00 pm](#)

Drool. Lots more cameras and different views available at:  
countdown dot ksc dot nasa dot gov/elv/

See the four stream feeds on the left hand side, and pick them up with windows media.

Drool.

19. 19. *Michael L* Says:  
[June 18th, 2009 at 3:14 pm](#)

#13, Jeff said:

"I'm still a little skeptical that men landed on moon, so when I see these lunar LEM images, that will remove my doubts."

Why would that remove your doubts? After all, couldn't NASA just photo-shop those pictures?

You see, the hoaxers will never believe, even if you rammed the evidence into every bodily orifice. There will always be a reason to believe that the landings were hoaxed. I am willing to bet that 9 out of 10 hoaxers will cry "photoshopped!" when NASA releases LRO images!

Looks like they will be out of the weather in 10 minutes according to latest updates!

I'm watching on Livestream. Way better picture and sound quality!

20. 20. *Jack Hagerty* Says:  
[June 18th, 2009 at 3:17 pm](#)

13. Bob Portnell Says: "Just read the NASA Facts sheet on LRO. Its b/w hi-res cameras have 1 m resolution ... which would be barely enough to recognize a lander. Except they'll never be looking for landers — they're tasked for examining the polar regions, and the Apollo gear isn't there."

Not to worry, Bob. In order to image the poles (in anyway other than tangentially), you have to be in polar orbit. That means that the moon turns under you as you orbit. If you read those spec sheets a little closer (the mission spec, not just the hardware) you'll see that this vehicle will image the entire

moon's surface, and more than once. It will be imaging every single Apollo, Surveyor, Lunakhod landing site plus all of the Ranger, etc. impact sites. And as I understand, the resolution is more like half a meter (20 inches), so a LM base would be about 1,000 pixels, quite enough to resolve it.

- Jack

21. 21. *Brandon* Says:

[June 18th, 2009 at 3:38 pm](#)

GOOD LAUNCH BABY!!!!

22. 22. *Mike Wagner* Says:

[June 18th, 2009 at 3:39 pm](#)

Is there downloadable video of the event? I tried to watch the stream but all I get is "buffering". On rural wireless for the summer and it's horrible. Costs the same as 10Mb service in the city.

23. 23. *Brandon* Says:

[June 18th, 2009 at 4:12 pm](#)

Did you try to watch on NASA TV?

24. 24. *Mike Wagner* Says:

[June 18th, 2009 at 4:17 pm](#)

That would be the stream I'm referring to, yes.

On a good day I get 50k/sec download. On a day like today, I get 70 bytes per second punctuated by moments of audio.

So if there's a downloadable version of the video I'd be quite happy to view it when it finishes downloading sometime next week 😊

25. 25. *JediBear* Says:

[June 18th, 2009 at 4:17 pm](#)

Watched the launch on NASA TV. Awesome.

26. 26. *Pillownaut* Says:

[June 18th, 2009 at 4:21 pm](#)

It was great! I'm still watching. One of the announcers said the launch was "one tenth of a second late," LOL... also just said they will be replaying it on NASA TV, so keep trying. Or, the NASA TV YouTube channel will upload a clip soon... they always put videos on there after launches and events



27. 27. *Bert Chadick* Says:

[June 18th, 2009 at 4:35 pm](#)

This flight must stick in the craw of everyone who claims that the government can't do anything right. On a less political note: The payload shroud seemed to be shed well before the spacecraft left the atmosphere. I presume this is on purpose, but why? Do they use the drag to strip the shell away or is there some other reason?

Yeah for Rocketships!

28. 28. *MKremer* Says:  
[June 18th, 2009 at 4:52 pm](#)

@Bert Chadick: A faring's primary purpose (beside the aerodynamic one) is to protect the payload from frictional heating in the lower atmosphere. Once a rocket gets beyond 60 miles or so in altitude both aero drag and heating are negligible, so the faring can be discarded without risk to the payload. The LV also gets to shed an extra ton or so of no longer needed weight.

29. 29. *gopher65* Says:  
[June 18th, 2009 at 5:53 pm](#)

Am I wrong, or does that launch site in the background look a \*lot\* like SpaceX's new Falcon 9 launch site that's finishing construction in July?

30. 30. *Jeff* Says:  
[June 18th, 2009 at 7:28 pm](#)

@Michael L: "I am willing to bet that 9 out of 10 hoaxers will cry "photoshopped!" when NASA releases LRO images!"

You're probably right, but then that will prove that they are complete idiots.

I actually was one of the HB ers until I had an argument with the people at BAUT , Phil's forum. Well, needless to say, they killed me in argument, and I totally admitted to them how wrong I was. I went through it point by point with them, and they pointed out the flaws in the HB arguments point by point. I now consider them friends, because they brought me back to reality.

31. 31. *The EGE* Says:  
[June 18th, 2009 at 9:38 pm](#)

That was the first launch I've ever watched on streaming video, and I was very impressed. My wireless connection is normally very slow, but I was able to get fast video and clear audio unless I was loading another webpage at the moment.

I was also very impressed by how the announcer gave updates on the speed, altitude, and downrange distance every minute or two. I just wish the figures in the video were a little more readable.

32. 32. *John Paradox* Says:  
[June 18th, 2009 at 10:07 pm](#)

SyFy (I know they're still officially 'the Sci Fi Channel', but am using the new silliness) has an article about the LRO (which is rather unusual for them - and with their 'Saturday Original Movies, they show little interest in good SF, or Science). I includes a partial list of what was left at Tranquility Base, and link to the Lunar Legacy Project with a full list.

Link at:(pending moderation) <http://scifiwire.com/2009/06/humankind-heads-back-to-t.php>

J/P=?

33. 33. [Jack Hagerty](#) Says:  
[June 18th, 2009 at 11:13 pm](#)

27. Bert Chadick Says: “Yeah for Rocketships!”

My kinda guy!

- Jack

34. 34. [madge](#) Says:  
[June 18th, 2009 at 11:38 pm](#)

So that’s sux to Neil our moon-hoax troll! : )

35. 35. [BigBob](#) Says:  
[June 19th, 2009 at 3:11 am](#)

Jack Hagerty @ 20

> And as I understand, the resolution is more like half a meter (20 inches), so a LM base  
 > would be about 1,000 pixles, quite enough to resolve it.

I don’t know Jack. I wish we could get a 1000 pixel image of the LM base, but my understanding of the Resolution is different from yours and I wonder who has it right. My understanding is that the LRO is capable of a pixel resolution of half a meter as you say, but since the LM base is only a few meters across, that would present an image of no more than 10 - 12 pixels? Still, that will be enough for an image eh? I bet that would make it onto BA’s top 10 astronomy images of 2009.

36. 36. [Flying sardines](#) Says:  
[June 19th, 2009 at 4:24 am](#)

Congrats to the LRO team & hope the mission goes well. Awesome! 😊

@ 9 Bob Portnell :

*Almost no chance of imaging a waving flag, though.*

Definitely no chance of the flag waving - not unless a meteorite just hit it or a moonquake gives it a shake! 😊

Actually, my understanding (*which could be wrong & all but* ) is that the flag actually fell over during the LEM’s ascent stage lift-off ... Course that’s just for Apollo 11 but not sure if the others had flags too or not ... & whether they fell over too or not.

37. 37. [Flying sardines](#) Says:  
[June 19th, 2009 at 4:41 am](#)

If you are a Moon Hoax Conspiracy “Theory” Believer (MHCTBer) then you are effectively calling the following courageous and honourable astronauts who all walked on the Moon liars :

Neil Armstrong,  
 Buzz (Edwin) Aldrin,

Apollo 11 – first Lunar landing. Aldrin would later write an autobiography as well detailing his very interesting if sometimes troubled life.

Charles “Pete” Conrad  
Alan Bean

Apollo 12 – the second Lunar landing. Alan Bean would later paint many scenes from his Lunar adventure from memory.

Alan Shepherd  
Edgar Mitchell

Apollo 14 – third lunar landing - & Al Shepherd was the first American in space with the ‘Mercury’ programme. Mitchell as we all know is hardly the quiet secret-keeping type!



David Scott  
James Irwin

Apollo 15 – fourth Lunar landing

Charles Duke  
John Young

Apollo 16 – fifth Lunar landing. Both Duke & Irwin later became preachers if that carries any weight for those who think preachers are more honest than, say, scientists. NOT a view I hold personally I’ll add, but one I know some do.

Harrison Schmidt  
Gene Cernan

Apollo 17 – sixth & so far last lunar landing. Schmidt, a geologist was the first and only scientist to walk on the Moon, the other astronauts mostly came from air-force or navy backgrounds.

Now according to the MHCTBers \*all\* of these brave and honourable men (& many hundreds more people as well) who have have different characters, abilities and backgrounds, who have written, painted, and talked about their lunar experiences are all consistently and continually lying!

Moreover, the MHCTBers would have us believe that all these men ( **& many hundreds more involved in the Apollo program**) who have been interviewed, studied, debriefed and questioned are \*perfect\* flawless liars who have never once “slipped up” and accidentally revealed “the secret.” Not to the media, not to their partners, not to their kids, not once, ever.

Yeah riiiiight. 🙄

Besides can anyone just imagine being the dude in charge of telling the Apollo astronauts – Buzz Aldrin and Pete Conrad, Jim Lovell and Al Shepherd and the rest :

“Hey, you know we’ll actually be faking all this so you’ve got to act .. & lie really well .. and then

hide somewhere while we somehow fool the Russians and ya gotta keep this so secret and.. ”  
 \*WHACK! \*

*[Person telling them this falls over with bloody nose and black eye from Buzz Aldrin's killer left hook!]*

... And that's before we even get to the mountain of other evidence like all the photos, moon-rocks, experiments left behind, et cetera ...

38. 38. *Flying sardines* Says:

[June 19th, 2009 at 10:04 am](#)

Oh and we also have the following astronauts who all circled our Moon whilst their companions walked on it - perhaps the ultimate in isolation from other people :

Apollo 11 - Michael Collins

Apollo 12 - Richard Gordon

Apollo 14 - Stuart Roosa

Apollo 15 - Fred Worden

Apollo 16 - Thomas Mattingly

Apollo 17 - Ronald Evans

MHCTBers are these too all liars in your view?

Plus, of course, the whole Apollo 13 crew that also circled our Moon : Jim Lovell, John Swigert, Fred Haise & the crews of Apollo's 10 ( Tom Stafford, Gene Cernan, John Young) & Apollo 8. (James Lovell, Frank Borman, William Anders.)

Basically **Do you really expect us to believe all these good individuals are lying -flawlessly?**

Well ... ???

39. 39. *Jo* Says:

[June 19th, 2009 at 12:41 pm](#)

@Jeff: Doubting the moon landings is not being skeptical. It's being a denialist. Throw all of modern scientific knowledge out the window with it, then. If they're lying about this — despite the careful documentation, and the rock samples, and the huge host of individuals involved who have never once hinted at anything to the contrary — then anyone could be lying about anything. Throw it all out.

## Leave a Reply

Name (required)

Mail (will not be published) (required)

Website

- ## About Bad Astronomy

If you went to BadAstronomy.com and found yourself here, never fear: the BA Blog has moved to its new home at Discover Blogs. The original BA site (with the Moon Hoax debunking and all that) [is still online](#), too.

Phil Plait, the creator of Bad Astronomy, is an astronomer, lecturer, and author. After ten years working on Hubble Space Telescope and six more working on astronomy education, he struck out on his own as a writer. He has written two books, dozens of magazine articles, and 12 bazillion blog articles. He is a skeptic, and fights misuses of science as well as praising the wonder of real science.





Bad Astronomy was chosen as one of [Time.com's Best Blogs of 2009](#).



[Open Lab 2008](#) is a collection of the best blog posts of the year, all in one place. Are you a science junkie? Yeah, you want it.



- **Subscribe to BA using an RSS Feed**

Subscribe to Bad Astronomy [using RSS!](#) 

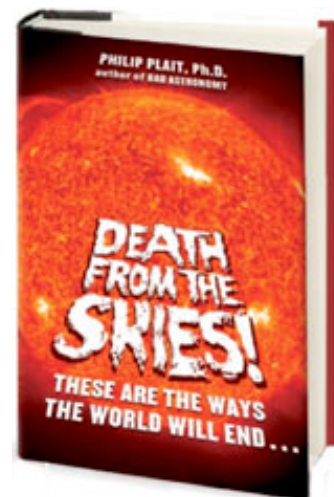
 [Catch me on Twitter](#)

- **Death from the Skies!**

Order a copy of *Death from the Skies!* from [Amazon](#), [Barnes and Noble](#), or [Borders](#).

"If things worked the way I wanted them to, any reporter about to do another 'sensational' story on deadly meteors would consult this volume, and *bang!* common sense would find its way into the news. How strange would *that* world be?"

-- Adam Savage, *Mythbusters*



"Reading this book is like getting punched in the face by Carl Sagan. Frightening, but oddly exhilarating."

-- Daniel H. Wilson, author of *How to Survive a Robot Uprising*

- 

## • Disclaimer

The opinions and ideas expressed in this blog are solely those of the author, and do not necessarily reflect those of Discover Magazine and/or the James Randi Educational Foundation, of which Dr. Plait serves as President.

## • Recent Posts

- [Science and Entertainment Exchange... from their mouths](#)
- [Call-in live interview tonight!](#)
- [Kaguya's final moments](#)
- [Herschel opens its eye!](#)
- [Captain Disillusion is Amazing](#)

## • Social/Networking/Cool Stuff



I support [the International Year of Astronomy 2009!](#)





13k Followers  
twittercounter.com

 [Facebook](#)

 [MySpace](#)

## • Post Categories

Select Category 

## • Archives

Select Month 

## • Blogroll

- [Bad Astronomy \(old site\)](#)
- [Bad Astronomy and Universe Today Forum](#)
- [Commenting Policy](#)
- [Computer Support](#)
- [Contact Information](#)
- [DM: 80 Beats](#)
- [DM: Better Planet](#)
- [DM: Discoblog](#)
- [DM: Reality Base](#)
- [DM: Science Not Fiction](#)
- [DM: The Intersection](#)
- [DM: The Loom](#)
- [James Randi Educational Foundation](#)
- [Planetary Society Blog](#)
- [Politics and Religion posts](#)
- [Press Kit](#)
- [The Antivax Bible](#)
- [Universe Today](#)

## • [DISCOVERmagazine.com: Latest Articles on Space](#)

- [Staring at the Sun. Just as Galileo Did](#)

- [Building the World's Wimpiest Space Thruster—Harder Than It Sounds](#)
- [Russia's Dark Horse Plan to Get to Mars](#)
- [A Scientist's Guide to Finding Alien Life: Where, When, and in What Universe](#)
- [The Frontiers of Astronomy](#)

-  **[DISCOVER Blogs: The Loom](#)**

- [A Big Prize For Finch Beaks](#)
- [Behold The Irreducible Complexity of the Almond](#)
- [Left Brain, Right Brain Redux](#)
- [Of Birds and Thumbs](#)
- [Radiolab: The Noise and Sloppiness of Life](#)

**CELEBRATE MOM,  
DAD & GRAD  
WITH DISCOVER!**

**GET YOUR  
FREE  
YEAR<sup>OF</sup>  
DISCOVER**



**YOU'LL GET  
2 FULL YEARS  
FOR THE PRICE OF 1  
JUST \$29.95**

**BUT HURRY  
THIS OFFER WON'T LAST**

**SUBSCRIBE NOW**

[Privacy](#) - [Terms](#) - [Reader Services](#) - [Subscribe Today](#) - [Advertise](#) - [About Us](#)