



# The Secular Circular

Newsletter of the Humanist Society of Santa Barbara

[www.SBHumanists.org](http://www.SBHumanists.org)

SEPTEMBER 2025

## *Building a God: Artificial Intelligence and the Future of Humanity*

**Our Program:** Artificial Intelligence (AI) technologies have advanced so rapidly that many researchers have been forced to focus primarily on the risks and governance of AI, as we move into an uncertain future. They mistakenly believed they had plenty of time to work on regulating, legislating, controlling, containing, or even stopping potential negative effects of these emerging technologies. That all changed with the release of current forms of AI (e.g. GPT-4, Bing AI, Claude, Bard, et al.).

In this presentation, Dr. DiCarlo will describe key terms, concepts, and issues of AI and then will review some of the promising benefits AI can bring to humanity, and its almost limitless potential. He will then share ways in which AI could create risk and generate harm – either intentionally or not; and that this harm could occur either through mismatch with human values, or through misuse by individuals, corporations, or countries. Finally, Dr. DiCarlo will suggest what we, the public, can do to help mitigate the risks of AI. When we use critical thinking and ethical reasoning to consider the potential benefits and harms of AI, we are much more empowered to discuss how we want these new forms of technologies to affect our lives as we move into this uncertain future.



**Dr. Christopher DiCarlo**  
Philosopher, Educator, Author

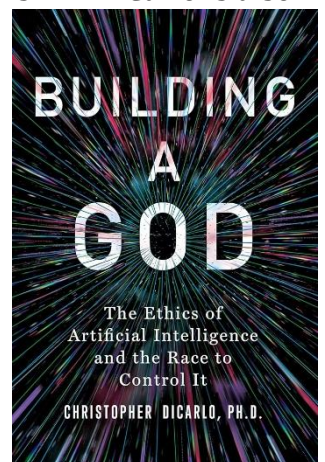
**Our Speaker:** Dr. Christopher DiCarlo is a philosopher, educator, and author. He is a Senior Researcher and Ethicist at Convergence Analysis – an international organization focusing on AI Risk and Governance. He is the Principal and Founder of Critical Thinking Solutions, a consulting business for individuals, corporations, and not-for-profits in both the private and public sectors. Dr. DiCarlo is also the Ethics Chair for the Canadian Mental Health Association and is a lifetime member of Humanist Canada and an Expert Advisor for the Centre for Inquiry Canada.

Dr. DiCarlo has been honored as Humanist of the Year in Canada. He is the author of several books including, *Building a God: The Ethics of Artificial Intelligence and the Race to Control It* (2025), *So You Think You Can Think: Tools for Intelligent Conversations and Getting Along* (2020), and *How to Become a Really Good Pain in the Ass: A Critical Thinker's Guide to Asking the Right Questions* (2011, 2021).

Dr. DiCarlo also hosts a new podcast called: *All Things Considered* in which he freely discusses current, important issues with world thought leaders, politicians, and entertainers through the lens of Critical Thinking and Ethical Reasoning.

**When:** Saturday September 20, 3:00 – 4:30 pm PST.

**Where:** On Zoom. <https://us02web.zoom.us/j/88193881833>.



## The HSSB Secular Circular – September 2025

### Mount Wilson Tour and Telescope Viewing

8/16/25 - *By Robert Bernstein*

Astrophysicist Edwin Hubble was offered a staff position at the Mount Wilson Observatory in 1919 by the founder and director of the observatory, astrophysicist George Ellery Hale. Good timing for Hubble, as this coincided with the completion of the 100-inch Hooker telescope. Which was the largest telescope in the world until 1949.

Hubble made observations with the Hooker telescope from 1922-3 of what was then called the Andromeda Nebula. A nebula is a generic term for anything fuzzy in the sky that is not a comet. At this time, it was assumed that these were some kind of clouds of matter in our own Milky Way galaxy.

As far as anyone knew at the time, our galaxy was the entire universe. Hubble's challenge was to figure out how far away Andromeda was from us.

How do you know how far away something is? Our two eyes give us binocular vision, meaning that each eye gets a slightly different perspective. This difference is called 'parallax'. We can judge distance that way out to about 20 feet. Beyond that we have to look for familiar objects whose size we know.

But astronomical distances are, well, astronomical. Suppose we use the parallax of the entire Earth? Or even the entire Earth's orbit? That is like having binocular vision with our eyes as far apart as the Earth's position in March and in September, for example.

We are limited by how small of an angle we can observe. Imagine you use the entire Earth's orbit as your 'two eyes'. We measure angles in degrees. There are 3600 arc seconds in one degree. Using the entire Earth's orbit and observing a tiny angle of one arc second, how far

away is the thing you are looking at? This is defined as 'one parsec'.

How far away is an object that is one parsec away? About 200,000 times the distance from the Earth to the Sun! A parsec is about 3.26 light years. This is a bit less than the distance to the nearest star, Proxima Centauri. Which is about 25 trillion miles away.

In other words, if you use the entire Earth's orbit for 'binocular vision' then you can barely tell the distance to nearby stars!

Henrietta Swan Leavitt was an astronomer who figured out another way to measure astronomical distances. It is called a 'standard candle'. If you know how bright a candle (or other light source) is and you measure how bright it looks at a distance, you can use simple math to determine how far it is. (Light brightness falls off as the square of the distance.)

But how do we find a 'standard candle' in astronomy? Stars can range widely in size and brightness. Leavitt figured out such a standard candle in a type of star that varies in brightness called a Cepheid variable. She was nominated for a Nobel Prize for this extremely valuable discovery, but she died before the process was completed.

Remember Hubble? Remember Mount Wilson? Hubble used Leavitt's discovery to make precise distance measurements to that Andromeda Nebula (cloudy blob). He managed to find a Cepheid variable star in Andromeda. And determined that it was an astonishing distance away.

If you go to a really dark place and look up at the sky you seem to see 'billions' of stars. Not really. You can see about 2,500 stars. All of them are in our Milky Way galaxy. Our galaxy is about 100,000 light years across. But Hubble discovered that Andromeda was a stunning 800,000 light years away! Far outside our

galaxy! Meaning that the universe was much bigger than just our galaxy!

Astronomer Walter Baade later discovered that Hubble had made a mistake. Baade realized there are two kinds of Cepheid variables. He determined that Andromeda was an even more stunning 2.5 million light years away! But Hubble had already shown that it was outside our galaxy.

Hubble went on to use the Hooker telescope to measure the distance to other galaxies. He determined that they are all moving apart; that the universe is expanding! And it was already really big...way bigger than the Milky Way. Our place in the universe had grown tinier by orders of magnitude.

Well, the Hooker telescope is still there. Light pollution from Los Angeles makes it less useful for cutting edge research, but it is still valuable. And it is open to the public, for a fee.

Thanks to the savvy organizing work of HSSB board member Gary Noreen, 20 of us were able to look through that same telescope that Hubble used; most of us also toured the facility before the viewing.

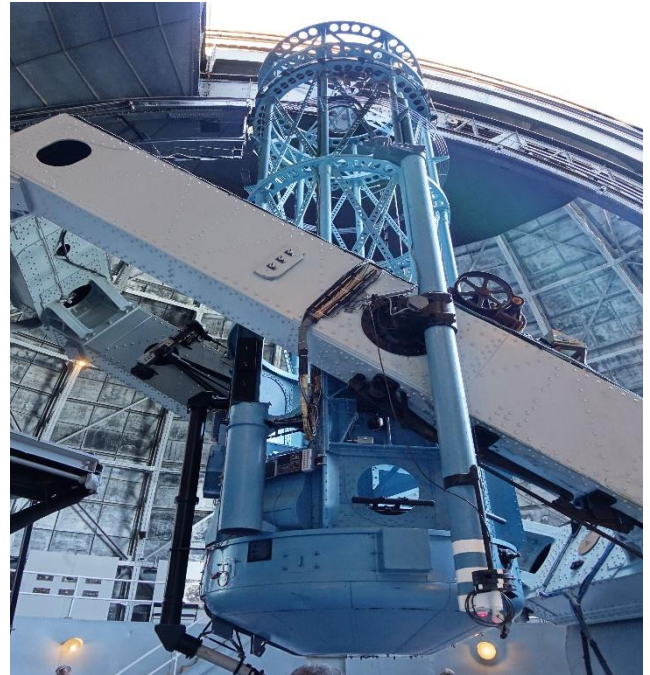
Here is a [link to my excursion photos](#), including a few in Pasadena and on the drive up.

My wife Merlie and I toured Mount Wilson on our own in 2018,



Robert & Merlie at Hooker 100" Telescope Dome, 2018

including visiting the museum and other bits that we did not have time to see on this trip. Here is a [link to my 2018 photos](#).



Inside the dome: Hooker 100" telescope on the HSSB trip.

Our group then toured the nearby (older) 60-inch telescope, where we were able to see some additional details.



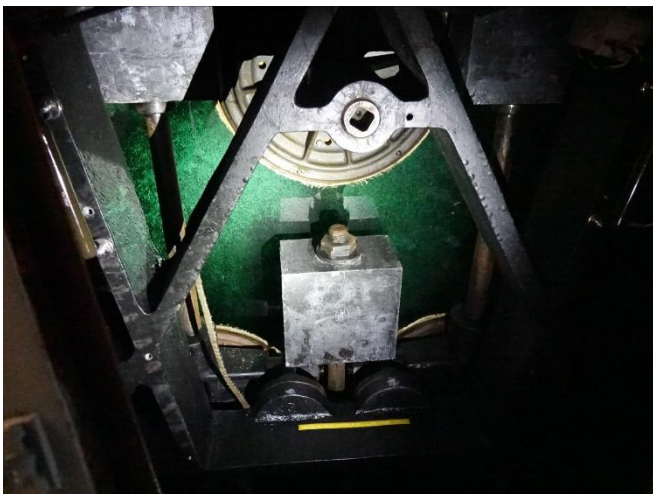
HSSB excursion group learning about the historic 60" telescope on Mt. Wilson



Reflection of a member of our tour in the backside of the aluminized primary mirror of the 60" telescope.

In contrast, the 100-inch telescope primary mirror is so big that the glass was poured in three layers, making it translucent and bubbly.

This is how the back side of that mirror looks.



Backside of the Hooker 100" telescope mirror highlighting the bubbles in the first glass pour.

One of our guides, Tom, explained that the telescopes are not attached to the domed buildings in which they sit. They are mounted on pilings that are buried deep in the ground under the building. The telescopes then float on pools of mercury, further isolating the telescopes and reducing the load on the supportive bearings.



The big cylinder behind our guide, Tom, contains the mercury pool for the 60-inch telescope. The 100-inch telescope needs two such pools!

We headed back to the 100-inch telescope near sunset. We walked on a catwalk on the outside of the dome for some spectacular views.

Pictured below is the 150-foot-tall tower of the original solar telescope, designed by astronomer Hale, to measure magnetic fields on the Sun. It was not able to make those measurements. The smaller solar telescope on the left, barely poking above the trees, was later built and Hale successfully made the measurements.



Two telescopes on Mt. Wilson designed to measure the magnetic field of the sun.

We also saw this beautiful sunset view!



HSSB Tour enjoyed this beautiful sunset view from the catwalk surrounding the dome of the 100" Hooker telescope.

At about 9:40PM it was finally dark enough to begin viewing.



Red light is used inside the 100" telescope dome so as not to disturb our night vision.

Unfortunately, there was no way to take photos through the telescope. I will describe what we

saw and link to public domain photos. We were told in advance that we could make viewing requests. My only request when we arrived was to see at least one galaxy outside the Milky Way, as Hubble had done. I am sorry to say that never happened. But we did see some cool things in our own galaxy.



This photo shows the eyepiece we looked through after dark.

First up was M13 (Messier 13). Astronomical objects are 'named' in different ways. One older method is a system developed by the French astronomer Charles Messier, first published in 1774. Messier was looking for comets and his list is basically a list of things that are NOT comets! If you see something called M and a number, it is from this system. Many amateur astronomers still refer to this system.

M13 is a globular cluster of several hundred thousand stars in the constellation, Hercules. It is about 25,000 light years away. It is also famous because in 1974 a message was sent from the Arecibo Observatory in Puerto Rico to M13 in hopes of initiating communication with an extraterrestrial civilization!

Here is a NASA photo of M13 taken with the Hubble space telescope, named in honor of Edwin Hubble.



NASA photo of M13 taken with the Hubble space telescope, named in honor of Edwin Hubble.

Next up was NGC 6210. NGC is the ‘New General Catalog’ that was supposed to replace the Messier system. NGC 6210 is called the Turtle Nebula. This is called a ‘planetary nebula’ even though it has nothing to do with planets (early astronomers saw it was relatively big in their field of view and fairly round like a planet). It is actually the remains of a star similar to our own Sun that has burned up all of its fuel. Stars like this expand to be a Red giant. In the case of our own Sun, it will expand so far out that it may engulf Venus and maybe even Earth (billions of years from now).

Red giants puff off about half of their gas out into space. This exposes the ‘planetary nebula nucleus’. This remnant is called a white dwarf star and is extremely dense. It puts out enough ultraviolet light to cause the ejected gas to fluoresce, creating some beautiful colors! This only lasts for 10,000-20,000 years: a blink of a cosmic eye.

Here is a photo of NGC 6210 taken by the Hubble space telescope. Our view was not quite as impressive as this, but it was pretty close! You can see the white dwarf star in the middle.



NGC 6210 as viewed with the Hubble space telescope

We next viewed Alpha Herculis, which is a multiple star system, also known as Rasalgethi. We saw two objects: one red and one blue. Blue stars are hotter and burn through their fuel quickly. Red stars are cooler and longer lived. Next up was M92. Another globular cluster in Hercules, about 26,000 light years away.

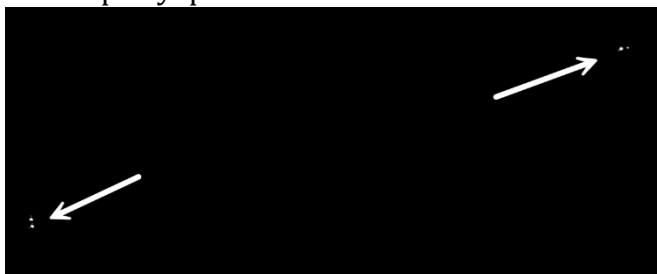
Then came NGC 6572, another feast for the eyes! Here is the Hubble view, which was clearer than what we saw. Note the white dwarf in the middle that is the source of all of the beauty.



Hubble space telescope view of NGC 6572, another ‘planetary nebula’ also called the Blue Racquetball

Next to last was Epsilon Lyrae, also known as the Double Double, in the constellation Lyra. It appears as two pairs of binary stars. Each pair is very close together, just a couple of arc seconds apart. They are so close together that they can be used to measure the quality of a telescope. Of course, the Hooker 100-inch telescope easily showed each pair distinctly! The two pairs are about 100 times farther apart than the separation within each pair. And the whole system is right next door to us: a mere 160 light years away! A fifth star in this system was discovered in 1985, but it cannot be observed in a conventional telescope: 'Speckle Interferometry' is needed.

This public domain image was taken by amateur astronomer Nikolay Nikolov and shared on Wikipedia. It looks like what we saw, but it doesn't capture the intense luminosity that we experienced when actually looking through the telescope eyepiece!



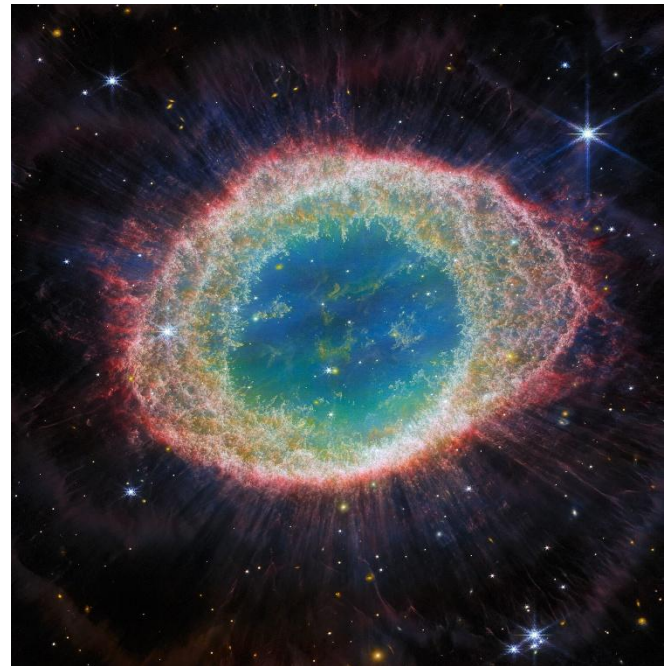
Epsilon Lyrae, aka the 'Double Double', in the constellation Lyra (arrows point to the two sets of double stars). *Photo by Nikolay Nikolov.*

Our final target of the night was one of my favorites: The Ring Nebula. Messier 57. It's another planetary nebula in the constellation Lyra, 2,283 light years away.

It looks like a ring of cigarette smoke exhaled by a smoker. I have seen it many times through amateur telescopes with our local Astronomical Unit astronomy club, but never like this! We even were able to see the white dwarf in the middle!

Our view at Mount Wilson was not as colorful or vivid as this, but it was still much more vivid

than I had ever seen through any other telescope.



The Ring Nebula. Messier 57. *Photo courtesy ESA/James Webb Space Telescope.*

Thanks to Chuck McPartlin of the Santa Barbara Astronomical Unit for reviewing my article and making corrections and suggestions. Please visit the Astronomical Unit's website at <https://www.sbau.org/> to find out about many educational and telescope viewing events! Learn more about the Mount Wilson Observatory at <https://www.mtwilson.edu/>

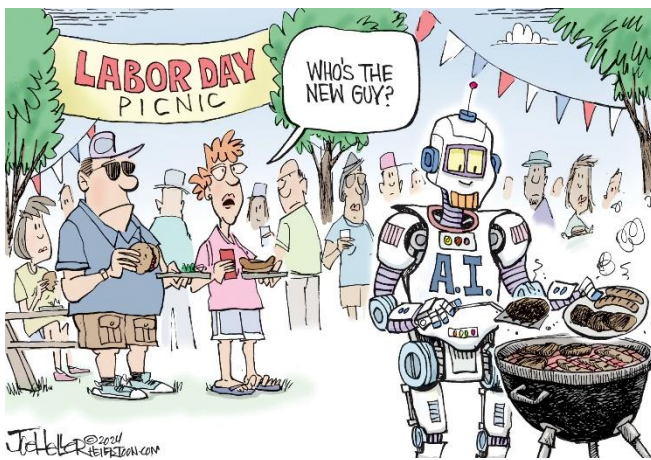




**Upcoming Events of Interest to Humanists**

*Submitted by Diane Krohn, Melanie Jacobsen & Judy Flattery*

- **August 31, 10 am:** *Natural Splendor*. Rev. Jonathan Young will reflect on how time spent outdoors can reveal ordinary elegance and remind us of the fresh good place within. [LOUUC](#).



Source: Joseph Heller. Washington Post, 2024

- **August 31, 11am:** *Yuval Harari on the Modern World*. Join Humanist Community in Silicon Valley in watching and then discussing 3 videos by Yuval Harari, author of *Sapiens*. [Attend the event at this Zoom link](#).

- **September 7, 10am:** *Water Communion*. Marking the end of summer. Bring a small amount of water that is special to you to commingle with others' streams, symbolically joining us together in the stream of life. [LOUUC](#).
- **September 14, 10am:** *Admiring Skills*. Kendra Wise. [LOUUC](#).
- **September 14 1:30pm.** Jane Borden: *Cults Like Us: Why Doomsday Thinking Drives America*. Author Jane Borden discusses "how we got here" as a nation, by investigating the cultish nature of our Puritan founders and the ways in which their doomsday ideologies still echo through secular American culture. [Zoom registration here](#). Humanist Association of Orange County.
- **September 18, 4pm:** *Exist Loudly, Exit Thoughtfully: A Secular Deathcare Discussion*. Free virtual event sponsored by the American Humanist Association. [A Secular Deathcare Discussion](#)
- **September 21 10am:** *We're Off to See the Wizard*. Rev. Jonathan Young. Live Oak Unitarian Universalist Congregation, 820 N. Fairview, Goleta, CA. [LOUUC](#).
- **October 11-12. California's 24<sup>th</sup> Annual Freethought Day at the State Capital in Sacramento.** Encouraging freedom of speech and thought, promoting civic engagement, inspiring science enthusiasm, advancing social justice, and supporting the separation of church and state. Includes speakers, state capital tour, and more. [Freethought Day 2025](#).
- **October 16, 7:30pm:** Fared Zakaria. *What It Takes*. UCSB Arts & Lectures event. Arlington Theater, Santa Barbara. [Fared Zakaria](#)

- **October 16-19:** Freedom from Religion Foundation 2025 National Convention, Myrtle Beach, SC. Speakers include Mary Trump, Katherine Stewart, Bailey Harris, Herb Silverman, and many others. [FFRF 2025 National Convention](#).



- **October 25, 5:00 pm:** *Heretic House Halloween Party and Fundraiser*. Join Atheists United and friends for a Haunted Halloween party and fundraiser at the iconic Heretic House in Los Angeles! [Get Tickets Here](#). 724 East Edgeware Road, Los Angeles, CA. Tickets include dinner, drinks, dancing, a silent auction, a 50/50 raffle, sunset views of downtown, and a costume contest (costumes welcome and not required).
- **November 22, 9am – 5pm** On Zoom. Prisons2Partnerships Annual Conference: *A Time for New Thinking, New Energy and New Action*. Conference is free to attend. Donations gratefully accepted. Sessions include incarceration’s impact on families, effective in-prison programs, and the experience and challenges of reentering society after incarceration. [Please register here to receive your personalized Zoom link](#).



Superman, turns himself in.  
Source: *The Providence Journal*, 2019.

### HSSB Contact Information

**Officers:** *President & Editor:* Judy Flattery, [sbhumanisteditor@gmail.com](mailto:sbhumanisteditor@gmail.com)

*Secretary:* Diane Krohn, [DJKrohn1@gmail.com](mailto:DJKrohn1@gmail.com)

*Treasurer:* David Flattery, [david.flattery@post.harvard.edu](mailto:david.flattery@post.harvard.edu)

#### Board Members at Large:

Wayne Beckman, Robert Bernstein, Judith Fontana, Gary Noreen, Mary Wilk

**To Join or Donate to HSSB:** Annual Membership dues \$36 for an individual, \$60 for a couple, \$100 for a Society Supporter and \$300 (or more) for a Society Patron. Dues payments and other donations can be made via

- PayPal (Paypal.me/SBHumanists or QR code below). At the PayPal site, select ‘Send’ then log into your PayPal account to complete the transaction. Or
- Zelle ([HSSBpayments@gmail.com](mailto:HSSBpayments@gmail.com)) or
- Checks made out to *Humanist Society of Santa Barbara* and mailed to Mary Taylor, HSSB, P.O. Box 30232, Santa Barbara, CA 93130.
- Please include your name and contact information when submitting payments.
- Membership questions? Contact Mary Taylor at [HSSB.Membership777@gmail.com](mailto:HSSB.Membership777@gmail.com)

Watch our speaker videos on [YouTube](#). Subscribe to our [Meetup](#) page to be notified of upcoming events.



meetup  YouTube





Humanist Society of Santa Barbara  
P.O. Box 30232  
Santa Barbara, CA 93130

## HSSB Calendar

**Saturday August 30. 3:00 pm. USD Asst. Professor Kristina Lee.** *Belief in Belong: What History and Research Teach Us About Atheist Community Building.* In person at Live Oak UU, 820 N. Fairview, Goleta AND on Zoom: <https://us02web.zoom.us/j/88193881833>.

**Wednesday September 17. 5:00 pm HSSB Board Meeting.** Members always welcome to attend.  
Zoom link: <https://us02web.zoom.us/j/83592300667>.

**Saturday September 20. 3:00 pm. Dr. Christopher DiCarlo.** *Artificial Intelligence and the Future of Humanity.* Hosted jointly by HSSB and The Freethought Society.  
Zoom link: <https://us02web.zoom.us/j/88193881833>.

**Tuesday October 7. 5:00 pm HSSB Board Meeting.** Members always welcome to attend.  
Zoom link: <https://us02web.zoom.us/j/83592300667>.

**Sunday October 12. 3:00 pm. Melanie Trecek-King.** *The Misinformation Trap and Changing Minds: My Journey from Creationist to Biologist.* Hosted jointly by HSSB and The Freethought Society. Zoom link:  
<https://us02web.zoom.us/j/89788090863?pwd=ZmwGUWW46fjHTnOFS8H53BPs06ITj6.1>