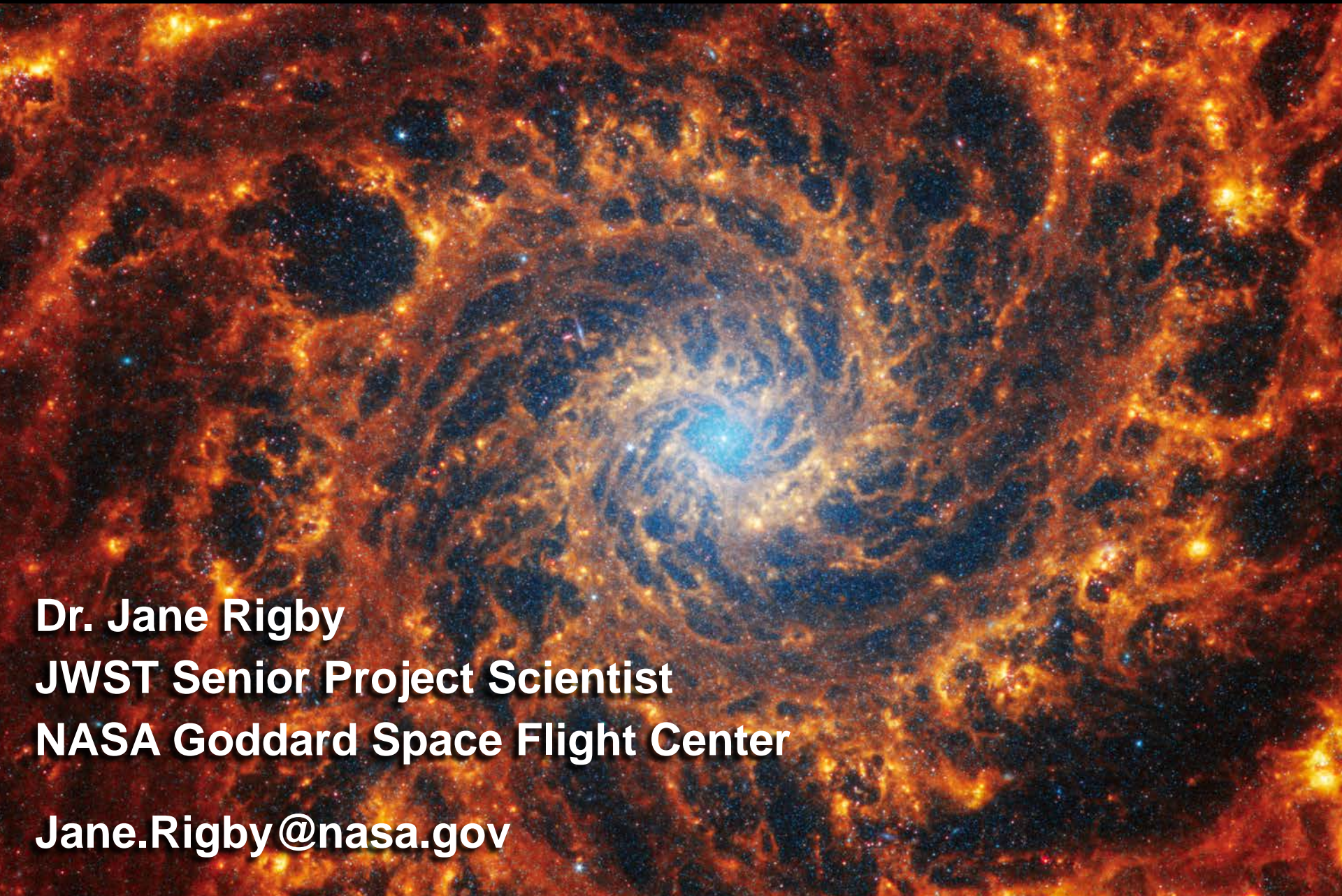




JWST Town Hall — NASA perspective



Dr. Jane Rigby
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Topics:

- **The BIG picture**
- **Look-ahead to end of Prime Mission in 2027**
- **Celebrating the careers of John Mather and Eric Smith**
- **New Program Scientist at HQ: Dr. Hannah Jang-Condell**
- **JWST contributing lessons learned & expertise to HWO**
- **We're hiring**



NASA's James Webb Space Telescope (JWST) is:

- the most powerful, most in-demand telescope the world has seen
- doing tremendous science (see Maca's talk)
- halfway through its 5 year prime mission
- the product of 20,000 people, 17 countries, and 3 space agencies
- developed in partnership with ESA and CSA, and operated by AURA's Space Telescope Science Institute (STScI)



Photo by Chris Gunn, NASA, 12/2020 at Northrop Grumman

JWST after separation from the launch vehicle, 12/25/2021



- **JWST's scientific powers are transformative, absolutely unique, and will not be eclipsed for decades.**
- **JWST's performance is better than requirements, and is as good as when science operations began, for almost all science modes.**
- **JWST is aging well: we still have all redundancy, have mitigated the effect of micrometeoroids, and the only consumable is propellant with 20+ years left.**
- **The scientific community is accomplishing JWST's mission, by submitting proposals, analyzing data, and publishing papers.**
- **The budget: NASA's astrophysics and science budgets are constrained. Webb faces potential budget challenges starting in Oct. 2025.**



Slide from Eric Smith, outgoing JWST Program Scientist at NASA HQ

- **All NASA missions have a “prime mission”:** a minimum duration.
- **JWST’s prime mission is 5 years, and ends July 5, 2027.**
- **For JWST, the first Senior Review will be spring 2028 (mid Cycle 6).**
- **Between the end of prime mission, and implementation of any changes recommended by the 2028 Senior Review, JWST will operate as it has during prime mission, assuming nominal observatory conditions. (stated in APD to SMD Memorandum for the Record)**
- **Possible changes between end of prime mission and Senior Review recommendations: exclusive access period (if recommended by STScI director and with agencies concurrence)**
- **Possible community-recommended changes after Senior Review: yearly project budgets, grants funding, operational changes, exclusive access period (if recommended by STScI director and with agencies concurrence)**

Note: budgets always come with the caveat, “provided sufficient appropriations from Congress”



Dr. John Mather — happy retirement, and thank you

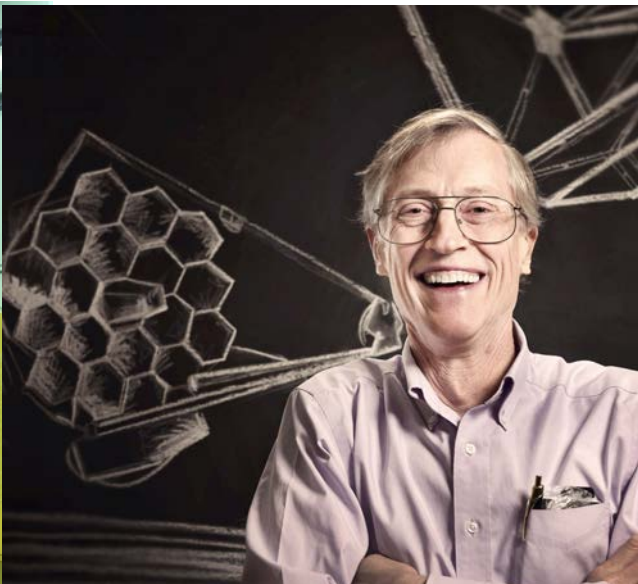


- **Project Scientist for COBE, and PI of its FIRAS instrument. Awarded 2006 Nobel Prize in Physics.**
- **JWST's Senior Project Scientist for 28 years, starting in 1995.**
- **Ensured the detailed scientific capabilities and performance of JWST. The “scientific conscience,” and the spokesperson.**

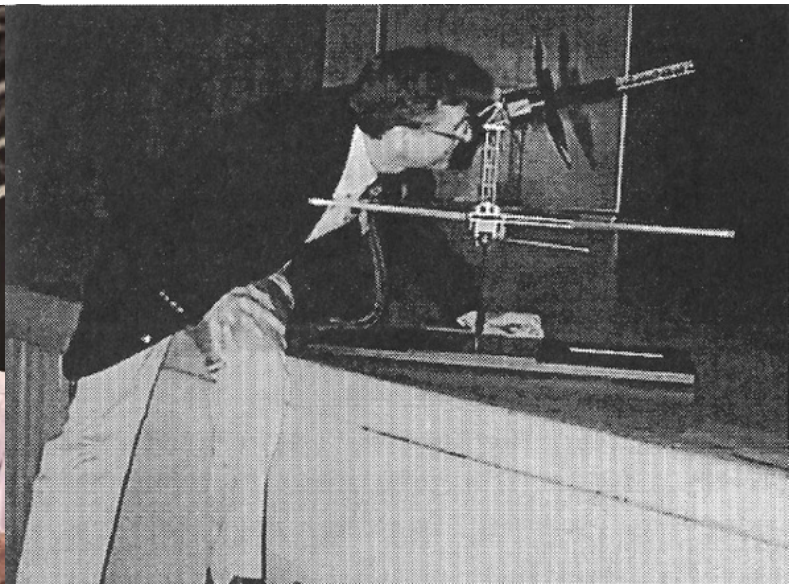
With JWST mirror at Goddard, 2017



Portrait by Chris Gunn, 2012



An early operations concept, 1997





Dr. Eric Smith — happy retirement, and thank you



Dr. Eric Smith will be retiring soon.

Eric joined JWST, then known as the “Next Generation Space Telescope” (NGST) in 1996, as John Mather’s deputy. John and Eric worked with 3 teams to prepare mission concepts, and formed the ad hoc science working group.

In 1996, JWST notionally looked like this:

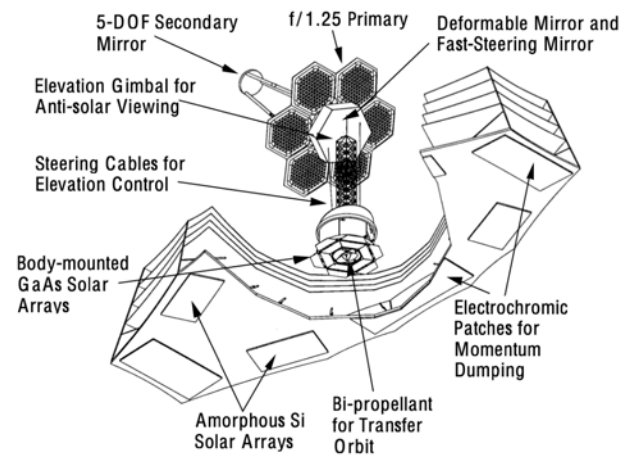


FIGURE 4.4 . TRW NGST Design Features. The symmetric lightshield aligns the center of radiation pressure on the center of mass in order to minimize radiation torque. (TRW)

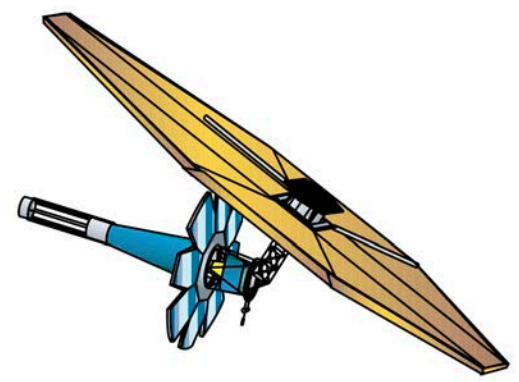


FIGURE 4.7. The GSFC Concept for an 8m NGST. The primary mirror is made of eight deployed segments surrounding a central mirror element. Like the TRW design, the telescope uses a symmetric sunshield and a thermally insulating truss or mast. (NASA/ GSFC)



Dr. Eric Smith — happy retirement, and thank you



Eric moved to HQ in 2001, where he served as the Program Scientist for Webb and Hubble.

As Program Scientist for Webb, Smith was responsible for defining and safeguarding the essential science requirements — the observatory's core capabilities such as primary mirror size, instrument complement, and mission lifetime. He also developed the high-level science policies (e.g. GTO time, early release observations, data access.)





Dr. Eric Smith — happy retirement, and thank you



Eric also served as the JWST Program Director or Acting Program Director for 4.5 years (7/2013 to 12/2017.)

JWST in 12/2017

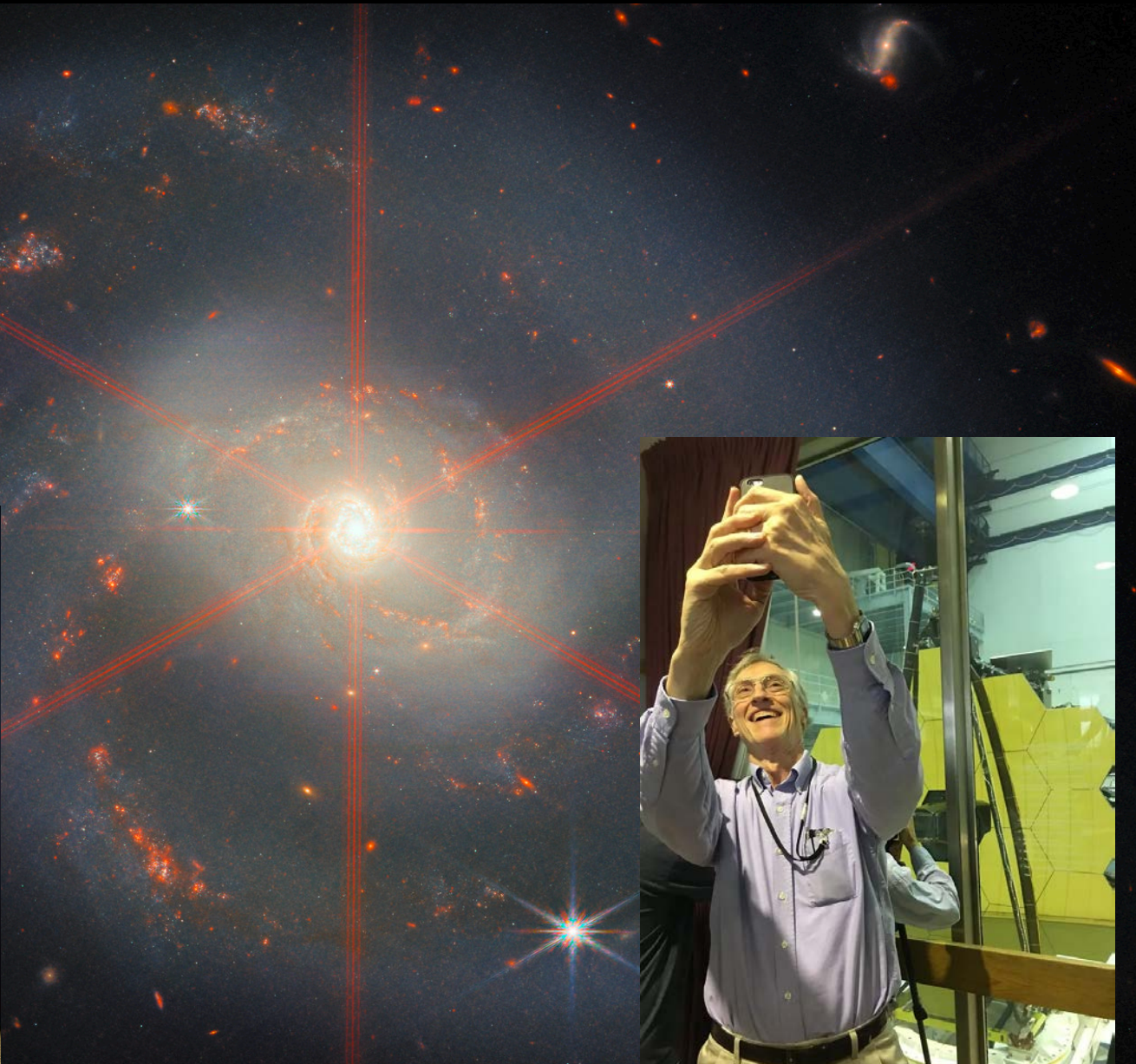


JWST in 7/2013





John Mather and Eric Smith: THANK YOU



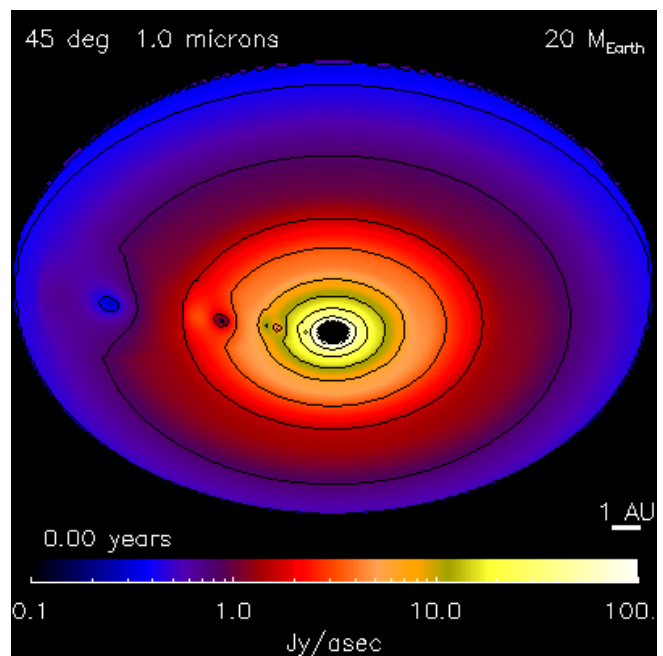


Welcome to Dr. Hannah Jang-Condell, the new JWST Program Scientist at NASA HQ!

Hannah will take over from Dr. Eric Smith upon his retirement.

Returning to the Astrophysics Science Division from a detail over to Planetary. Still the Program Scientist for the Exoplanet Exploration Program and ESA's Ariel mission.

Dr. Jang-Condell's research interests include protoplanetary disks and planet formation. Before coming to HQ, she was a professor at U. Wyoming.





The JWST team is contributing to HWO



- **JWST's success with deployments, wavefront sensing and control, and integrated modeling — these pave the way for the Habitable Worlds Observatory (HWO).**
- **The JWST team has extensively documented lessons learned, to aid HWO and other future flagships:**
 - [JWST Lessons Learned Final Report](#) (and [presentation](#) to HWO START-TAG by L. Feinberg)
 - JWST Telescope lessons learned (S7 of McElwain et al. 2023, PASP, 135, 58001)
 - JWST optical stability lessons learned (Feinberg et al. 2023, JATIS, 10, 11204)
 - JWST systems lessons learned (Menzel et al. 2024, JATIS, 10, 11208)
- **Several of JWST's key engineers (e.g. Lee Feinberg, Mike Menzel, Julie Van Campen) are in senior positions on HWO.**
- **JWST Project Science team is contributing to HWO (Mike McElwain, Chris Stark, Erin Smith, Jane Rigby, Amber Straughn).**



We're hiring! Come join us



NASA Goddard is hiring a deputy Observatory Project Scientist for JWST. Please apply and tell your colleagues!

<https://aas.org/jobregister/ad/c7345214>

Application deadline is Jan. 20!



The JWST Project Science team at our Dec. 2024 retreat.

L to R: Jane Rigby, Mic Bagley, Knicole Colón, Amber Straughn, Stefanie Milam, Susan Neff, Mike McElwain