ROBERT FERGUSON OBSERVATORY

2024 IMPACT REPORT

Our Mission and Vision

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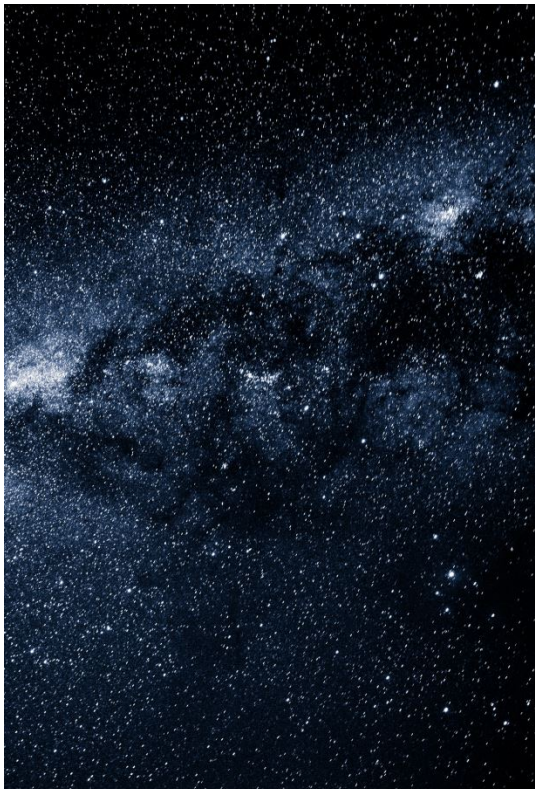

Our Mission is to offer educational programs about science and astronomy for students, the public, and in support of educators.

- *Our purpose is to give the public a place to foster their interest and passion in astronomy and space.*
- *We aim to inspire young people to pursue further education or careers in astronomy or related STEM fields to help meet the growing future demand for individuals in these industries.*
- *We strive to broaden our reach to underserved populations in Sonoma and surrounding counties to provide equitable opportunities to all socioeconomic groups.*

Our Vision is to be recognized as a leading center for public astronomy education in Sonoma County, serving students, families, and the general public.

We embrace these values to accomplish our purpose

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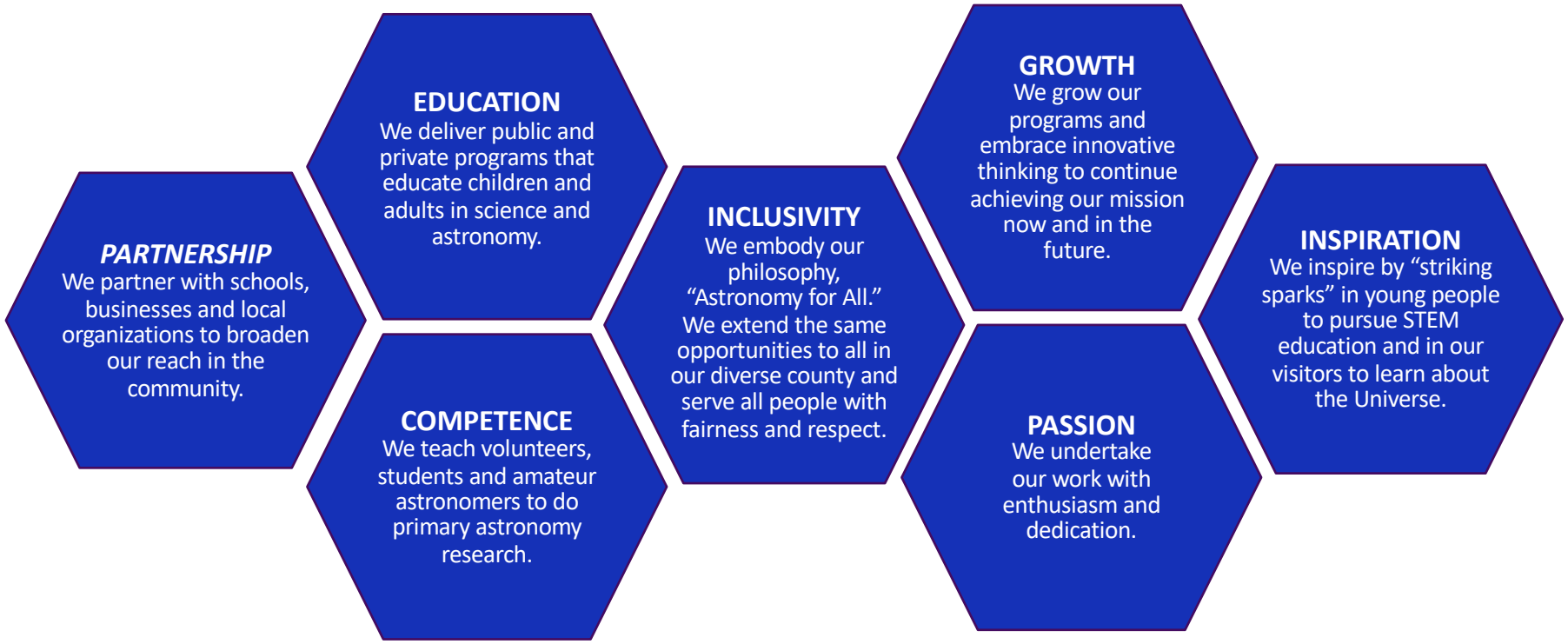

From our Executive Director

Stephanie Derammelaere
Executive Director
Robert Ferguson Observatory

We had a very busy 2024, serving about 2,000 more people than the previous year through our public, private, and outreach events. We also implemented a capital campaign to move forward with a necessary accessibility improvement project on the observatory building (more information on page 14 and 15 of this report). In addition, through some generous grants we were able to invest in telescope maintenance and upgrades, including:

- A new color and photometry camera for our RC20 telescope, through RFO donors and a grant from the New York Community Trust. The photometry camera will extend the range of our scientific imaging, allowing us to explore a wider variety of research missions. The color camera will allow for live color imaging during Star Parties and events, allowing us to share the colorful beauty of the night sky with our visitors.
- A Boltwood Cloud Sensor III and Eagle5 Pro Control Computer through the generosity of the Exchange Bank Foundation. The Cloud Sensor reports the presence or absence of clouds and reports rain, snow, wind speed, temperature, humidity, barometric pressure, and sky brightness. The Eagle Computer will upgrade the capability of our 40-inch telescope to fully use the new guide telescope and camera.
- A thorough cleaning of our largest 40” reflector mirror, thanks to the incredible team at Viavi Solutions, whose expertise and dedication ensured a flawless result. This will greatly enhance our stargazing experience.

We also worked on adding new programs, including a family daytime program and several others that will be offered this coming year. We are excited to continue our impact in the community and get the public and students excited about science and astronomy!

(Continued on next page)

From our Executive Director (cont'd.)

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In 2024 the Robert Ferguson Observatory also received the Platinum Transparency rating on Guidestar, a resource by Candid for information about nonprofit organizations, including data and analysis. This is a resource potential donors use in evaluating non-profits and helps funders find, research, and support organizations aligned with their priorities. Fewer than 1% of the 1.7 million nonprofit organizations in the U.S. have earned a Platinum Seal. What does this mean?

The Platinum Seal of Transparency is the highest level of recognition that GuideStar offers. It demonstrates that an organization is sharing information about its goals, strategies, capabilities, achievements, and progress indicators. To earn the Platinum Seal an organization must share goals and strategies and provide metrics to show impact. The Platinum Seal helps donors and funders evaluate an organization's performance and see how their donations are making an impact. It also enables transparent reporting of an organization's actual impact beyond financial ratios.

Thank you to our supporters and volunteers for being a vital part of the Robert Ferguson Observatory community! It is your generosity, passion, and commitment that allows us to continue to foster a love of science that inspires future generations and builds a brighter tomorrow for all who look to the stars with wonder and awe.

Sincerely,

S. Desrammelaere

Programs Provided in 2024

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PROGRAM / EVENT	NUMBER OFFERED IN 2024
Public Star Parties	14
Public classes (Focus Nights, Night Sky Class, Bring Your Own Telescope, etc.)	36
Young Astronomers meetings and library events	12
Observación de Estrellas (Spanish-speaking star party)	2
Free events (Solar Observing, Solar Eclipse event, Wappo Cultural Gathering, etc.)	6
Family Daytime Program	1
Private off-site events	12
Private events at RFO (mainly for schools and youth groups)	29
Docent / Member Nights	3
Outreach events (science fairs, museum events, etc.)	13
TOTAL NUMBER OF EVENTS IN 2024	**127**

2024 By the Numbers

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10,999
Visitors
Served

3,287
Youth
Inspired

One
Striking
Sparks
Telescope
Awarded

206
low-income
families
gained free
admission

An event
offered through
RFO
An average
of every
2.8 Days

Program Evaluation Survey Results

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91.1% of respondents stated that they learned something new about science or astronomy during their visit to RFO.

85.3% of respondents stated that their visit inspired them to learn more about space and astronomy.

27.5% respondents came with children and, of those, **77.3%** agreed that the children in their group were inspired to learn more about space and astronomy

87.1% of respondents stated they are likely to return for another event at RFO

Some comments from our visitors

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"Great experience! The instructor and volunteers were very informative."

"Very fun and inspirational day. Our 6-year-old is ready for another one!"

"Everyone was welcoming, helpful and knowledgeable. It was a tremendous pleasure to attend."

"I have lived in the town of Sonoma 10 years and just discovered this great find! I didn't know this existed and was thrilled to experience it! Thanks!"

"Was a very informative evening."

"Your docents, staff, etc. were terrific. The best jewel in Sonoma County!"

"Docents were fantastic at interacting with our high school group. The students loved it - thank you!

"Having the opportunity to have a NASA Ames scientist as a guest was especially special. Thank you to you and the staff of RFO for providing a place to view the stars."

RFO Volunteers in 2024

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- **175 Active Docents**
- **6,311 hours volunteered in 2024**
- **42 New Volunteers trained in 2024**
- **49 Volunteers active for more than 5 Years**
- **31 Volunteers active for more than 10 years**

RFO Volunteer Awards in 2024

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- **Nancy Cummings -** Nancy was one of the 2024 Sonoma Valley Star Volunteer Award recipients! We are so proud of all her work in sharing the night sky with our visitors, co-leading our Your Universe program, leading and facilitating our Young Astronomers group, and inspiring others to learn about astronomy at many RFO and outreach events.

- **Natalie Burton –** Natalie won a 2024 Heart of Sonoma County Youth Volunteer of the Year award! Currently a junior at Sonoma Academy, Natalie was the recipient of a Striking Sparks award and telescope in 2022. Since then, Natalie has been instrumental in helping with the Young Astronomers program – giving presentations, mentoring younger students, and facilitating meetings. She is often seen at various outreach events with her telescope, educating the public on nighttime or solar observing.

- **Presidential volunteer awards –** We also had several volunteers that earned Presidential Volunteer Service Awards for 2024. Joe La Sala, Dave Kensiski, and Dave Cranford earned the silver level award for adults; Jack Welch, Judd Reed, Kenneth Voss, Obe Lynd, Mikko Bojarksy, John Gregg, Janice Wien, Laurel Highland, Ryan McDaniel, Jim Mirowski, Colleen Ferguson, Callie Keeler, Roger Boulanger, Joseph Byrnes, and Dan Aguilar earned the bronze level award for adults. Sophie Qin earned a silver level award for the teen category.

Astronomy for All

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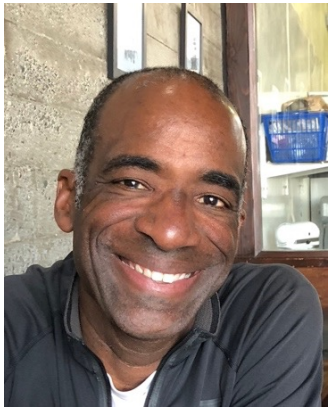
In 2024 we continued our work in providing "Astronomy for All." As an organization the Robert Ferguson Observatory is committed to fostering a welcoming and inclusive environment that celebrates diversity and ensures equitable access for all individuals, and strives to make our programs and facilities accessible to everyone, regardless of their background or abilities.

To that end, some of what we accomplished in 2024 includes:

- Reviewed and updated our volunteer handbook, website, and other communications to ensure inclusive language and compliance with current accessibility standards including the Web Content Accessibility Guidelines.
- Added questions regarding accessibility and inclusivity into our visitor event surveys, monitored survey results, and implemented suggestions and feedback from visitors to enhance accessibility at the observatory.
- Purchased and added signage and lighting to the RFO building and roadway to assist in accessibility for events.
- Engaged with Los Cien and other relevant organizations to broaden our reach in the Spanish language community, created Spanish language resources, and held Spanish language events.
- Continued promoting Museums for All program in social media and local press. Increased Museums for All participation by 68% year over year since starting the program in 2022.

We call our DEIA statement "Astronomy for All." To see the complete statement and what actions we are taking to facilitate our philosophy, please see:
https://rfo.org/index.php/astronomy-for-all/

From our Board President



Eric McHenry
Board President
Robert Ferguson Observatory

My Thoughts on Diversity, Equity, and Inclusiveness at RFO

The Robert Ferguson Observatory holds a special place in my heart as a place of scientific exploration and as a model of diversity and inclusiveness. We have a saying, "Astronomy for All," and I think it represents a community where people from all walks of life (and ages) can unite, united by our shared passion for the cosmos.

As someone who has personally experienced the power of diversity, I genuinely believe in its transformative impact. When individuals from different backgrounds, cultures, and perspectives converge, magic happens. It is within this tapestry of diversity that breakthroughs are made, pushing the boundaries of education and scientific knowledge.

Equity is not just a concept to me; it is a fundamental value I hold dear. I believe that everyone deserves equal opportunities to engage with RFOs resources and pursue education and scientific exploration regardless of their background. By breaking down barriers and promoting fairness, we create an environment where our visitors and docents can thrive, regardless of circumstance.

What does this mean? I view the commitment to championing diversity, equity, and inclusiveness as critical for RFO's present and future. This includes outreach programs, mentorship initiatives, and partnerships to bring underrepresented voices into the scientific fold. This is the mission our founders laid for us years ago, and falls on us to continue.

I am honored to call RFO my "Home in the Hills."

From our Research Committee

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The Research Committee supports docents and students in learning how to do astronomy science using the instruments at RFO as well as instruments available for public use remotely. All areas of research are welcome and committee meetings and observing sessions at the observatory are used to teach, learn, develop skills, increase understanding and, in some cases, to publish results of the work being done.

During 2024, the Research Committee was able to:

- Create and deliver a Double Star Astrometry program that resulted in students writing and submitting papers to the Double Star Journal, based on their own observations and analysis.
- Observe and analyze nine exoplanet transits across their host star, detecting the transits with differences of only 2 millimagnitudes.
- Configure two new cameras for use on the RC20 telescope and trained docents on changes in operation that improved research images and images displayed at visitor events.
- Train docents and students on multiple differential photometry software and exercised the training on images acquired at RFO.
- Support a high school class for sophomores, junior and seniors where the instructor has created an Astronomy 101 course with a research component. The support included giving access to astronomy resources and providing images from RFO for student analysis.
- Observe variable stars Z UMi and Z Draconis. Observations of Z UMi were analyzed and submitted to the American Association of Variable Star Observers (AAVSO). This R Coronae Borealis variable experienced a major drop in brightness, as these stars sometimes do, and RFO contributed data to the AAVSO campaign to follow this event. Many other cataclysmic variable stars were also observed and analyzed.
- Design a software pipeline to fully calibrate the raw science images to account for bias, flat field and dark field characteristics of the imaging chip in the science camera.
- Relaunch the Research at RFO web page on the RFO web site to show the current work being done and to attract new interest in the research program at RFO. The page is now featured in RFO social media posts and is attracting new volunteers interested in doing citizen science research.

From the Telescope Team

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Besides being able to make some necessary upgrades and improvements to our telescopes and equipment last year, thanks to some generous grants and donor contributions, we are also grateful to have our largest 40” reflector mirror, part of the biggest telescope accessible to the public in Northern California, benefit from a meticulous cleaning! Thanks to the incredible team at Viavi Solutions, our mirror is now gleaming with pristine clarity. This intricate process was no small feat, given the immense size of the mirror, but Viavi’s expertise and dedication ensured a flawless result. We are immensely grateful for their help in enhancing our stargazing experience.

Update on Capital Improvement Project

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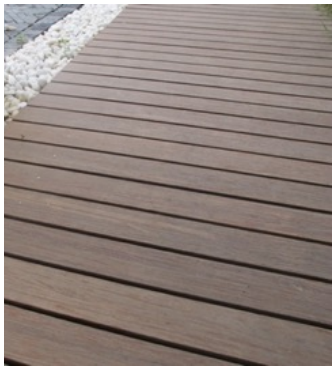

The observatory has proven to be a success! When we constructed the building over 25 years ago, we did not anticipate needing to accommodate over 300 people at our public star parties. Now it is time to replace the existing wooden ramps, landings, railings, and handrails, improve access, and expand the dome wing.

The capital improvement project will make the observatory more accessible and comfortable for all people who wish to enjoy the observatory. Project construction includes new deck substructure, 6’ wide ramps (versus existing 4’ ramps), a van accessible parking space with an access aisle and concrete pathway, and better aligned entry stairs. Durable construction materials are proposed for longevity and safety.

The existing Dome Wing can comfortably hold only a few visitors. That means some family or group members must wait outside. The project will expand the size of the dome wing to make the space around the telescope more comfortable and inclusive. The existing dome will be replaced with a larger dome to improve telescope operations.

The Project Evaluation Form we submitted to California State Parks in August 2024 is currently undergoing review. In January 2025, we worked with the Institute for Canine Forensics to complete a search for possible human remains in the area around the observatory. We expect to start construction in Spring 2025 while we continue to raise funds to complete the entire project.

Update on Capital Campaign Funding

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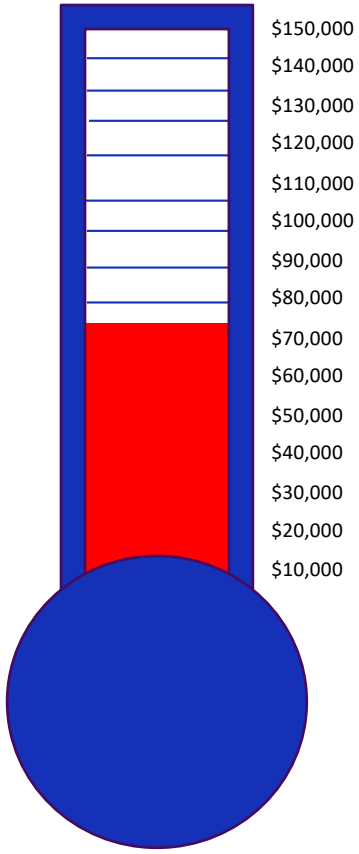


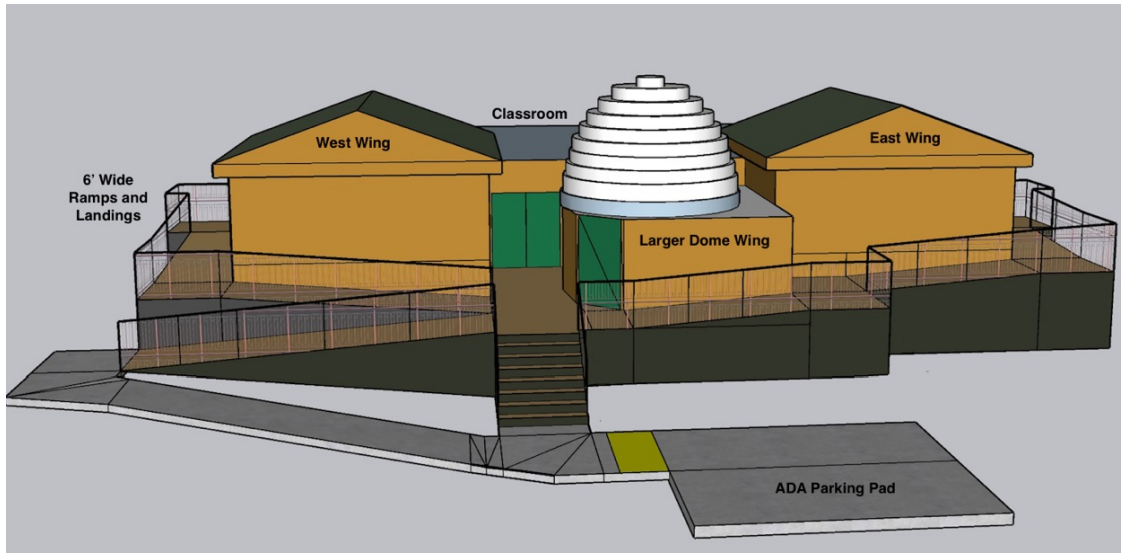
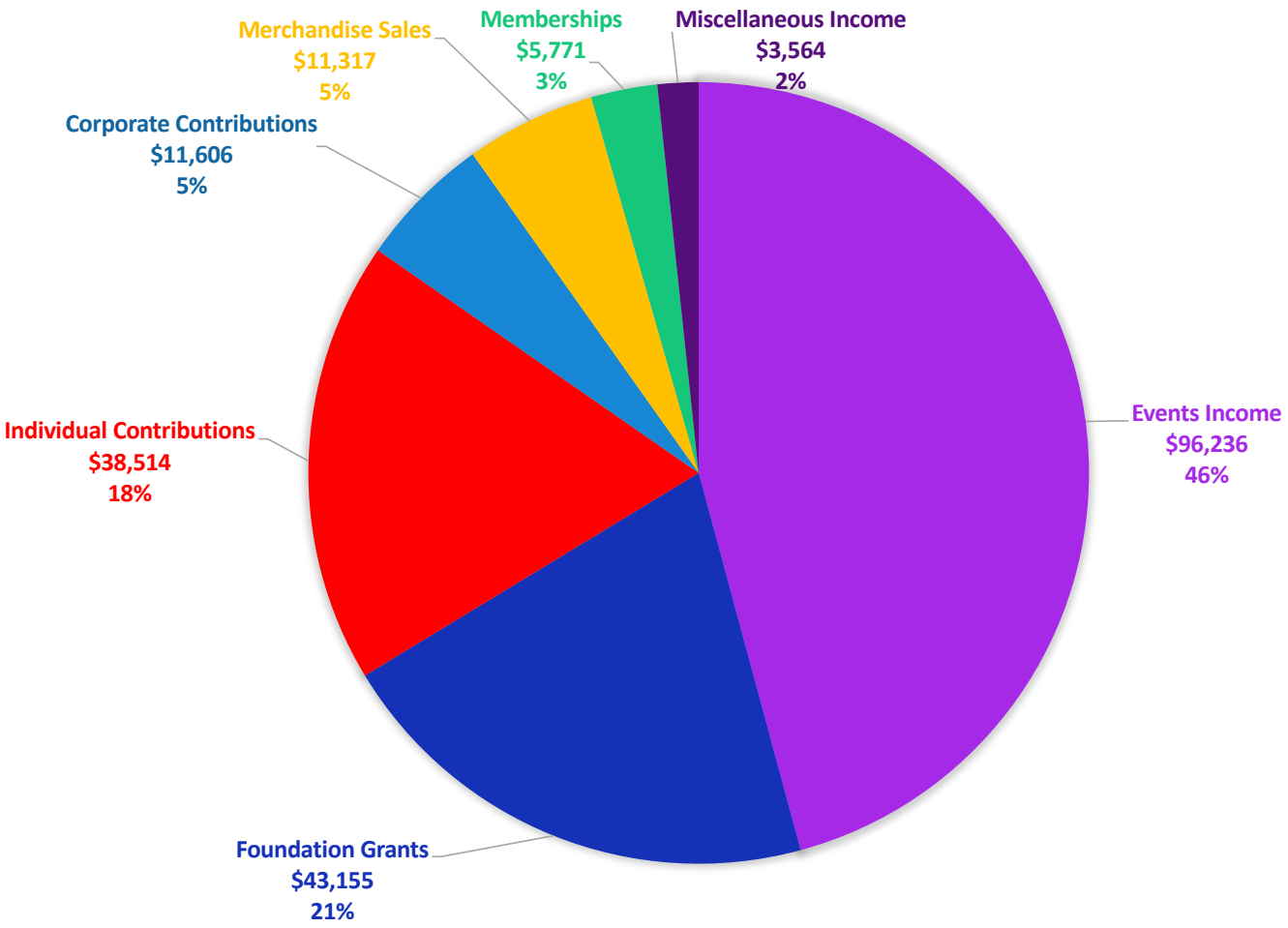


Illustration of completed observatory, post accessibility improvement project.

We implemented a capital campaign to help fund the accessibility improvement project in 2024 and are about half-way to our goal of $150,000! Thank you to all of our many supporters, donors, corporate sponsors, and foundations for your contributions to help make this important safety and accessibility work a reality!



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Our Revenue Highlights for 2024

Robert Ferguson Observatory

Balance Sheet

As of December 31, 2024

	TOTAL
ASSETS	
Current Assets	
Bank Accounts	$77,954.96
Accounts Receivable	$0.00
Other Current Assets	$97,348.17
Total Current Assets	$175,303.13
Fixed Assets	$10,967.14
TOTAL ASSETS	$186,270.27
LIABILITIES AND EQUITY	
Liabilities	
Current Liabilities	$3,264.92
Total Liabilities	$3,264.92
Equity	
Opening Bal Equity	4,607.33
Perm Restricted Funds	15,000.00
Retained Earnings	136,966.10
Temp Restricted Funds - Building Maintenance and Improvement	11,715.90
Net Income	14,716.02
Total Equity	$183,005.35
TOTAL LIABILITIES AND EQUITY	$186,270.27

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Statement of Financial Position for 2024

Thank you to our 2024 Corporate Sponsors

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KEYSIGHT

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Invested in you.

AMATURO
Sonoma
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501(c)3 Non-profit
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Contact Us:
707.833.6979
info@rfo.org

Mailing Address:
PO Box 898
Glen Ellen, CA 95442

www.rfo.org
rfo.simpletix.com

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