

VERA RUBIN SURVEY TELESCOPE DESIGNATION ACT

JUNE 27, 2019.—Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

Ms. JOHNSON of Texas, from the Committee on Science, Space, and Technology, submitted the following

R E P O R T

[To accompany H.R. 3196]

[Including cost estimate of the Congressional Budget Office]

The Committee on Science, Space, and Technology, to whom was referred the bill (H.R. 3196) to designate the Large Synoptic Survey Telescope as the “Vera Rubin Survey Telescope”, having considered the same, reports favorably thereon without amendment and recommends that the bill do pass.

CONTENTS

	Page
I. Purpose of the Bill .....	1
II. Background and Need for the Legislation .....	2
III. Committee Hearings .....	2
IV. Committee Consideration and Votes .....	2
V. Summary of Major Provisions of the Bill .....	3
VI. Section-By-Section Analysis (By Title and Section) .....	3
VII. Committee Views .....	3
VIII. Cost Estimate .....	3
IX. Congressional Budget Office Cost Estimate .....	4
X. Compliance with Public Law 104-4 (Unfunded Mandates) .....	4
XI. Committee Oversight Findings and Recommendations .....	4
XII. Statement on General Performance Goals and Objectives .....	4
XIII. Federal Advisory Committee Statement .....	4
XIV. Duplication of Federal Programs .....	4
XV. Earmark Identification .....	5
XVI. Applicability to the Legislative Branch .....	5
XVII. Statement on Preemption of State, Local, or Tribal Law .....	5
XVIII. Proceedings of Full Committee Markup .....	5

I. PURPOSE OF THE BILL

The purpose of the bill is to designate the Large Synoptic Survey Telescope (LSST) as the “Vera Rubin Survey Telescope”.

## II. BACKGROUND AND NEED FOR THE LEGISLATION

Dr. Vera Cooper Rubin was a renowned astronomer and an advocate for women in science. After graduating from Vassar College in 1948 as the only woman astronomer in her class, Dr. Rubin hoped to pursue her doctoral studies at Princeton. However, the Princeton astrophysics graduate program did not admit women at the time and declined to send her a course catalog. Dr. Rubin persisted and earned her master's degree at Cornell and her Ph.D. at Georgetown University before joining the Carnegie Institution's Department of Terrestrial Magnetism.

In 1970, Dr. Rubin published some of the best evidence of the existence of dark matter. This groundbreaking work changed the conventional view of the universe from one dominated by light-emitting matter to one dominated by dark matter. Dr. Rubin went on to become the second woman astronomer elected to the National Academy of Sciences in 1981. She received the National Medal of Science in 1993.

Dr. Rubin worked throughout her career to encourage girls to pursue STEM studies and careers. She advocated for more women members of the National Academy of Sciences and for more women on review panels and academic search committees.

Under construction in Chile, LSST is an 8.4-meter wide-field optical telescope that will begin operations in 2023 to survey the entire southern sky twice a week over the span of a decade. While LSST data can be used by scientists to conduct a wide range of studies, the project's primary science goals are to (1) probe the nature of dark matter and dark energy, (2) catalogue asteroids and other objects in the solar system, (3) examine how objects in the sky vary over time, and (4) study the structure and formation of the Milky Way galaxy. LSST design and construction were jointly funded by NSF and DOE (\$563 million) and private (non-federal) partners (\$40 million).

H.R. 3196 will honor Dr. Rubin's legacy in the field of dark matter by designating the LSST facility—including the headquarters site, the base and summit facilities, and the data processing and access centers—as the Vera Rubin Survey Telescope. This is the first designation of a Federally-funded U.S. telescope in honor of a woman. This designation will cement Dr. Rubin's legacy, and elevate her work and career as a source of inspiration for women and girls interested in pursuing STEM studies and careers.

## III. COMMITTEE HEARINGS

The Committee held no hearings on this bill.

## IV. COMMITTEE CONSIDERATION AND VOTES

On June 11, 2019, Representative Eddie Bernice Johnson, for herself and Representative Jenniffer González-Colón of Puerto Rico introduced H.R. 3196, the *Vera Rubin Survey Telescope Designation Act*, to designate the Large Synoptic Survey Telescope as the "Vera Rubin Survey Telescope".

The Committee on Science, Space, and Technology met to consider H.R. 3196 on Thursday, June 20, 2019 and considered no amendments to the bill. Ms. Johnson moved that the Committee favorably report the bill, H.R. 3196, to the House with the rec-

ommendation that the bill be approved. The motion was agreed to by a voice vote.

#### V. SUMMARY OF MAJOR PROVISIONS OF THE BILL

Designates the LSST as the “Vera Rubin Survey Telescope”.

#### VI. SECTION-BY-SECTION ANALYSIS (BY TITLE AND SECTION)

##### *Section 1. Short title*

Vera Rubin Survey Telescope Designation Act

##### *Section 2. Findings*

This section presents Congress’s findings.

##### *Section 3. Designation*

This section designates the LSST as the “Vera Rubin Survey Telescope”.

##### *Section 4. References.*

This section directs any reference to the LSST be deemed a reference to the “Vera Rubin Survey Telescope”.

#### VII. COMMITTEE VIEWS

The LSST was ranked the highest-priority large ground-based facility in the 2010 U.S. Decadal Survey, New Worlds, New Horizons in Astronomy and Astrophysics. This unique facility will provide an unprecedented data set for scientists to probe the nature of dark matter and explore the time-variable universe for decades to come.

The Committee believes that Dr. Vera Rubin’s legacy, including her contributions to the field of dark matter and her efforts to expand opportunities for women in the sciences, is richly deserving of this designation.

All current references to “Large Synoptic Survey Telescope” and “LSST” on NSF’s and AURA’s websites and in budget documents and all other public-facing documents, media, and buildings should be replaced with “Vera Rubin Survey Telescope” or “VRST”. Individual components of the facility may be otherwise named.

#### VIII. COST ESTIMATE

Pursuant to clause 3(c)(2) of rule XIII of the Rules of the House of Representatives, the Committee adopts as its own the estimate of new budget authority, entitlement authority, or tax expenditures or revenues contained in the cost estimate prepared by the Director of the Congressional Budget Office pursuant to section 402 of the Congressional Budget Act of 1974.

IX. CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

U.S. CONGRESS,  
CONGRESSIONAL BUDGET OFFICE,  
*Washington, DC, June 25, 2019.*

Hon. EDDIE BERNICE JOHNSON,  
*Chairwoman, Committee on Science, Space, and Technology,  
House of Representatives, Washington, DC.*

DEAR MADAM CHAIRWOMAN: The Congressional Budget Office has reviewed H.R. 3196, the Vera Rubin Survey Telescope Designation Act, as ordered reported by the House Committee on Science, Space, and Technology on June 20, 2019. The bill would designate the Large Synoptic Survey Telescope as the Vera Rubin Survey Telescope.

CBO estimates that enacting H.R. 3196 would have no significant effect on the federal budget and would not affect direct spending or revenues; therefore, pay-as-you-go procedures do not apply. CBO estimates that enacting the legislation would not increase on-budget deficits in any of the four consecutive 10-year periods beginning in 2030.

H.R. 3196 contains no intergovernmental or private-sector mandates as defined in the Unfunded Mandates Reform Act.

If you wish further details on this estimate, we will be pleased to provide them. The CBO staff contact is Janani Shankaran.

Sincerely,

MARK P. HADLEY  
(For Phillip L. Swagel).

Enclosure.

X. FEDERAL MANDATES STATEMENT

H.R. 3196 contains no unfunded mandates.

XI. COMMITTEE OVERSIGHT FINDINGS AND RECOMMENDATIONS

The Committee's oversight findings and recommendations are reflected in the body of this report.

XII. STATEMENT ON GENERAL PERFORMANCE GOALS AND OBJECTIVES

The goal of this legislation is to designate the LSST facility as the "Vera Rubin Survey Telescope".

XIII. FEDERAL ADVISORY COMMITTEE STATEMENT

H.R. 3196 does not create any advisory committees.

XIV. DUPLICATION OF FEDERAL PROGRAMS

Pursuant to clause 3(c)(5) of rule XIII of the Rules of the House of Representatives, the Committee finds that no provision of H.R. 3196 establishes or reauthorizes a program of the federal government known to be duplicative of another federal program, including any program that was included in a report to Congress pursuant to section 21 of Public Law 111-139 or the most recent Catalog of Federal Domestic Assistance.

XV. EARMARK IDENTIFICATION

Pursuant to clause 9(e), 9(f), and 9(g) of rule XXI, the Committee finds that H.R. 3196 contains no earmarks, limited tax benefits, or limited tariff benefits.

XVI. APPLICABILITY TO THE LEGISLATIVE BRANCH

The Committee finds that H.R. 3196 does not relate to the terms and conditions of employment or access to public services or accommodations within the meaning of section 102(b)(3) of the Congressional Accountability Act (Public Law 104–1).

XVII. STATEMENT ON PREEMPTION OF STATE, LOCAL, OR TRIBAL LAW

This bill is not intended to preempt any state, local, or tribal law.

XVIII. PROCEEDINGS OF THE FULL COMMITTEE MARKUP



**MARKUPS: H.R. 2528, STEM  
Opportunities Act of 2019;  
H.R. 36, Combating Sexual Harassment  
in Science Act of 2019;  
H.R. 3196, Vera Rubin Survey Telescope  
Designation Act; and  
H.R. 3153, Expanding Findings for Federal Opioid  
Research and Treatment Act**

---

---

**MARKUP**  
BEFORE THE  
**COMMITTEE ON SCIENCE, SPACE, AND  
TECHNOLOGY**  
**HOUSE OF REPRESENTATIVES**  
ONE HUNDRED SIXTEENTH CONGRESS

FIRST SESSION

—————  
JUNE 20, 2019  
—————

**Serial No. CP 116–4**

—————

Printed for the use of the Committee on Science, Space, and Technology



Available via the World Wide Web: <http://science.house.gov>

—————  
U.S. GOVERNMENT PUBLISHING OFFICE

WASHINGTON : 2019

COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY

HON. EDDIE BERNICE JOHNSON, Texas, *Chairwoman*

ZOE LOFGREN, California  
DANIEL LIPINSKI, Illinois  
SUZANNE BONAMICI, Oregon  
AMI BERA, California,

*Vice Chair*

CONOR LAMB, Pennsylvania  
LIZZIE FLETCHER, Texas  
HALEY STEVENS, Michigan  
KENDRA HORN, Oklahoma  
MIKIE SHERRILL, New Jersey  
BRAD SHERMAN, California  
STEVE COHEN, Tennessee  
JERRY McNERNEY, California  
ED PERLMUTTER, Colorado  
PAUL TONKO, New York  
BILL FOSTER, Illinois  
DON BEYER, Virginia  
CHARLIE CRIST, Florida  
SEAN CASTEN, Illinois  
KATIE HILL, California  
BEN McADAMS, Utah  
JENNIFER WEXTON, Virginia

FRANK D. LUCAS, Oklahoma,

*Ranking Member*

MO BROOKS, Alabama  
BILL PPOSEY, Florida  
RANDY WEBER, Texas  
BRIAN BABIN, Texas  
ANDY BIGGS, Arizona  
ROGER MARSHALL, Kansas  
RALPH NORMAN, South Carolina  
MICHAEL CLOUD, Texas  
TROY BALDERSON, Ohio  
PETE OLSON, Texas  
ANTHONY GONZALEZ, Ohio  
MICHAEL WALTZ, Florida  
JIM BAIRD, Indiana  
JAIME HERRERA BEUTLER, Washington  
JENNIFFER GONZALEZ-COLÓN, Puerto Rico  
VACANCY



C O N T E N T S

June 20, 2019

	Page
H.R. 2528— <i>STEM Opportunities Act of 2019</i> .....	11
H.R. 36— <i>Combating Sexual Harassment in Science Act of 2019</i> .....	11
H.R. 3196— <i>Vera Rubin Survey Telescope Designation Act</i> .....	11
H.R. 3153— <i>Expanding Findings for Federal Opioid Research and Treatment Act</i> .....	11



**MARKUPS: H.R. 2528, STEM  
Opportunities Act of 2019;  
H.R. 36, Combating Sexual Harassment  
in Science Act of 2019;  
H.R. 3196, Vera Rubin Survey Telescope  
Designation Act; and  
H.R. 3153, Expanding Findings for Federal  
Opioid Research and Treatment Act**

---

THURSDAY, JUNE 20, 2019

HOUSE OF REPRESENTATIVES,  
COMMITTEE ON SCIENCE, SPACE, AND TECHNOLOGY,  
*Washington, D.C.*

The Committee met, pursuant to notice, at 10:04 a.m., in room 2318, Rayburn House Office Building, Hon. Eddie Bernice Johnson [Chairwoman of the Committee] presiding.

Chairwoman JOHNSON. Good morning. The Committee will come to order. And without objection, the Chair is authorizes to declare recess at any time. Pursuant to Committee rule 2(e) and House rule XI, the Chair announces that she may postpone roll call votes.

Pursuant to notice, the Committee meets to consider the following measures: H.R. 2528, *STEM Opportunities Act of 2019*; H.R. 36, *Combating Sexual Harassment in Science Act of 2019*; H.R. 3196, *Vera Rubin Survey Telescope Designation Act*; and H.R. 3153, *Expanding Findings for Federal Opioid Research and Treatment Act*.

I want to welcome everyone to today's markup. Today, we meet to mark up four good bipartisan bills. First, we will consider the *STEM Opportunities Act*, which has been a priority of mine of course for many years. This bill will help us address the disparity in the number of women and minorities in the STEM fields.

Without including all of our Nation's brain power in the fight for 21st-century competitiveness, it is unlikely that our country will remain the world leader in science and innovation. It is therefore my hope that this bill will play a major role in ensuring our country's competitiveness in the coming years.

It is not enough to simply attract women to the STEM fields. We must also ensure they stay in these fields, and the second bill in our markup addresses one of the reasons women leave the STEM sciences in such high rates: Sexual harassment. The problem of sexual harassment in the STEM fields has not been addressed in a comprehensive fashion. I hope that the *Combating Sexual Har-*

*Assessment in Science Act of 2019* can play an important role in focusing Federal efforts to stamp out sexual harassment in the sciences.

I want to take a moment to recognize my colleague Ranking Member Lucas, who is an original co-sponsor of both of these bills. Both he and his staff have provided very constructive input into these bills and the hearings we held on these topics. I think the bills before us today are better off because of these efforts, and I want to sincerely thank him and his staff for their work.

The third bill before us today is the *Vera Rubin Survey Telescope Designation Act*. I'll speak more about this bill in a minute, but I think it is appropriate that on the same day our Committee tries to address the issues facing women in the STEM fields, we also take a moment to recognize a woman who overcame the hurdles she faced to provide significant contributions to the field of astronomy.

Finally, we will consider the *Expanding Findings for Federal Opioid Research and Treatment Act*, which is offered by Ms. Wexton. The scourge of opioid addiction is one of the most serious problems facing our Nation right now. It only makes sense to bring all of our resources to bear on this issue, and I think the National Science Foundation (NSF) can bring unique capabilities to the fight to better understand and deal with this critical issue.

I look forward to a productive markup and moving these bills very quickly to the House floor.

[The prepared statement of Chairwoman Johnson follows:]

I want to welcome everyone to today's markup. Today we meet to markup four good bipartisan bills.

First, we will consider the *STEM Opportunities Act*, which has been a priority of mine for many years. This bill will help us address the disparity in the number of women and minorities in the STEM fields.

Without including all of our Nation's brain power in the fight for 21st century competitiveness, it is unlikely that our country will remain the world leader in science and innovation. It is therefore my hope that this bill will play a major role in ensuring our country's competitiveness in the coming years.

It is not enough to simply attract women to the STEM fields. We must also ensure they stay in those fields, and the second bill in our markup addresses one of the reasons women leave the sciences in such high rates: sexual harassment.

The problem of sexual harassment in the STEM fields has not been addressed in a comprehensive fashion. I hope that the *Combating Sexual Harassment in Science Act of 2019* can play an important role in focusing federal efforts to stamp out sexual harassment in the sciences.

I want to take a moment to recognize my friend and colleague, Ranking Member Lucas, who is an original cosponsor of both of these bills. Both he and his staff have provided very constructive input into these bills and the hearings we have held on these topics. I think the bills before us today are better off because of these efforts, and I want to sincerely thank him and his staff for their work.

The third bill before us today is the *Vera Rubin Survey Telescope Designation Act*. I'll speak more about this bill in a minute, but I think it is appropriate that on the same day our Committee tries to address the issues facing women in the STEM fields, we also take a moment to recognize a woman who overcame the hurdles she faced to provide significant contributions to the field of astronomy.

Finally, we will consider the *Expanding Findings for Federal Opioid Research and Treatment Act*, which is offered by Ms. Wexton. The scourge of opioid addiction is one of the most serious problems facing our nation right now.

It only makes sense to bring all of our resources to bear on this issue, and I think the National Science Foundation can bring unique capabilities to the fight to better understand and deal with this critical issue.

I look forward to a productive markup and moving these bills very quickly to the House floor.

Chairwoman JOHNSON. I now recognize the Ranking Member to present an opening statement.

Mr. LUCAS. Thank you, Chairwoman Johnson, for holding this markup.

Today, we'll consider four bipartisan bills. The first is H.R. 2528, *STEM Opportunities Act of 2019*. H.R. 2528 continues this Committee's long bipartisan history of supporting and expanding STEM education for all. The only way we'll achieve our potential is by utilizing America's most valuable resource: Our people. That means developing a diverse STEM-capable workforce at every education level and from every background.

One of the key provisions of H.R. 2528 is a requirement for more comprehensive data collection and analysis on the students, researchers, and faculty receiving Federal science grants. This data will help us identify and reduce the barriers that prevent underrepresented groups from entering and advancing in STEM. It will also help us measure the success of Federal STEM programs.

The bill also includes a provision directing NSF to support computer science education through the existing Tribal Colleges and Universities program. Access to computer science resources and the development of computing skills is critical in today's economy. I am pleased to join Chairwoman Johnson in cosponsoring this legislation. I want to thank her and her entire staff for working with us to refine the bill for reintroduction and incorporating our feedback and ideas. I look forward to continuing to work with the Chairwoman and Members of the Committee to advance more STEM education efforts for this Congress to support, encourage, and develop the next generation of STEM students.

Our second bill this morning is H.R. 36, *Combating Sexual Harassment in Science Act of 2019*. Chairwoman Johnson and I made this one of our highest priorities, introducing it on the first day of the 116th Congress. This bill has a foundation of more than a year of investigation, analysis, and recommendations to the Science Committee. Engaging more women in STEM studies and careers is essential to American competitiveness. Women make up half the workforce but account for less than 25 percent of America's STEM workforce.

Unfortunately, too many women have been driven out of STEM careers due to a culture of harassment and abuse. H.R. 36 takes the first steps to addressing this problem. The bill supports the adoption of uniform guidance across the Federal science agencies to reduce the prevalence of sexual harassment involving grant personnel. The bill also directs the NSF to conduct further research into the causes and consequences of harassment, as well as interventions to mitigate the problem.

There is an established legal process in place within higher education and in the workplace for handling claims of sexual harassment. This bill does not alter that process. What this bill does do is create a uniform policy for universities and research institutions to report to Federal science agencies when an administrative action is taken that impacts the ability of a researcher to carry out a grant. We want to ensure the safety of all grant personnel supported by taxpayer funding. I'll be offering an amendment later in the markup that we hope makes this requirement even more clear.

Again, thank you, Chairwoman Johnson, for working in a bipartisan and collaborative way to move this legislation forward.

Next, we will consider H.R. 3196, *Vera Rubin Survey Telescope Designation Act*, sponsored by Chairwoman Johnson and Representative Jennifer González-Colón. This bill honors the contributions of the late Dr. Vera Rubin, an astronomer who made groundbreaking discoveries in the field of dark matter and was a pioneer and life-long advocate for women in astronomy.

This new LSST (Large Synoptic Survey Telescope), under construction in Chile, funded by the National Science Foundation and the Department of Energy, will photograph the entire sky every few nights. One of the goals of the project is to study the nature of dark matter and dark energy. Naming the observatory in her honor is a fitting tribute to the contributions to the field, and I—her contributions to the field, I should note, and I hope will inspire future generations of women in astronomy.

Finally, the Committee will consider H.R. 3153, *Expanding Findings for Federal Opioid Research and Treatment Act*. This legislation identifies current gaps that exist in research on the prevention and treatment of opioid addiction and authorizes the NSF to support research grants in those areas.

I want to thank Representative Jennifer Wexton and Representative Jim Baird for their bipartisan work on this bill. Opioid addiction affects too many in our communities, and I applaud this effort to support more basic research on the science of addiction.

Once again, thank you, Chairwoman Johnson, for holding today's markup, and I encourage the Members of the Committee to support all these bills.

I yield back the balance of my time.

[The prepared statement of Mr. Lucas follows:]

Thank you, Chairwoman Johnson, for holding this mark-up. Today we will consider four bipartisan bills.

The first is H.R. 2528, *STEM Opportunities Act of 2019*. H.R. 2528 continues this Committee's long bipartisan history of supporting and expanding STEM education for all.

The only way we'll achieve our potential is by utilizing America's most valuable resource: our people. That means developing a diverse STEM-capable workforce at every education level and from every background.

One of the key provisions of H.R. 2528 is a requirement for more comprehensive data collection and analysis on the students, researchers, and faculty receiving federal science grants. This data will help us identify and reduce the barriers that prevent underrepresented groups from entering and advancing in STEM. It will also help us measure the success of federal STEM programs.

The bill also includes a provision directing NSF to support computer science education through the existing Tribal Colleges and Universities program. Access to computer science resources and the development of computing skills is critical in today's economy.

I was pleased to join Chairwoman Johnson in co-sponsoring this legislation. I want to thank her and her staff for working with us to refine the bill for reintroduction and incorporating our feedback and ideas.

I look forward to continuing to work with the Chairwoman and members of the Committee to advance more STEM education efforts this Congress to support, encourage and develop the next generation of STEM students.

Our second bill this morning is H.R. 36, *Combating Sexual Harassment in Science Act of 2019*. Chairwoman Johnson and I made this one of our highest priorities, introducing it on the first day of the 116th Congress. This bill has a foundation of more than a year of investigation, analysis, and recommendations to the Science Committee.

Engaging more women in STEM studies and careers is essential to American competitiveness. Women make up half of the workforce, but account for less than 25 percent of America's STEM workforce.

Unfortunately, too many women have been driven out of STEM careers due to a culture of harassment and abuse. H.R. 36 takes the first steps to addressing this problem. The bill supports the adoption of uniform guidance across the federal science agencies to reduce the prevalence of sexual harassment involving grant personnel. The bill also directs NSF to conduct further research into the causes and consequences of harassment, as well as interventions to mitigate the problem.

There is an established legal process in place within higher education and in the workplace for handling claims of sexual harassment. This bill does not alter that process. What this bill does do, is create a new uniform policy that universities and research institutions report to federal science agencies when an administrative action is taken that impacts the ability of a researcher to carry out a grant.

We want to ensure the safety of all grant personnel supported by taxpayer funding. I'll be offering an amendment later in the mark-up that we hope makes this requirement even more clear.

Again, thank you Chairwoman Johnson for working in a bipartisan and collaborative way to move this legislation forward.

Next we will consider H.R. 3196, *Vera Rubin Survey Telescope Designation Act*, sponsored by Chairwoman Johnson and Representative Jennifer González-Colón. This bill honors the contributions of the late Dr. Vera Rubin, an astronomer who made groundbreaking discoveries in the field of dark matter and was a pioneer and life-long advocate for women in astronomy.

The new LSST Telescope under construction in Chile, funded by the National Science Foundation and the Department of Energy, will photograph the entire sky every few nights. One of the goals of the project is to study the nature of dark matter and dark energy. Naming the observatory in her honor is a fitting tribute to her contributions to the field and I hope will inspire future generations of women in astronomy.

Finally, the Committee will consider H.R. 3153, *Expanding Findings for Federal Opioid Research and Treatment Act*. The legislation identifies current gaps that exist in research on the prevention and treatment of opioid addiction and authorizes NSF to support research grants in these areas.

I thank Rep. Jennifer Wexton and Rep. Jim Baird for their bipartisan work on this bill. Opioid addiction affects too many in our communities, and I applaud this effort to support more basic research on the science of addiction.

Once again, thank you Chairwoman Johnson for holding today's mark-up, and I encourage the Members of this Committee to support these bills. I yield back the balance of my time.

Chairwoman JOHNSON. Thank you, Mr. Lucas.

H.R. 2528

10:13 a.m.

Chairwoman JOHNSON. We will now consider H.R. 2528, *STEM Opportunities Act* of 2019. The clerk will report the bill.

The CLERK. H.R. 2528, a bill to direct the Director—

[The bill follows:]

(Original Signature of Member)

116TH CONGRESS  
1ST SESSION

**H. R.** \_\_\_\_\_

To designate the Large Synoptic Survey Telescope as the “Vera Rubin Survey Telescope”.

---

IN THE HOUSE OF REPRESENTATIVES

Ms. Johnson (for herself and Ms. González Colón) introduced the following bill; which was referred to the Committee on

---

**A BILL**

To designate the Large Synoptic Survey Telescope as the “Vera Rubin Survey Telescope”.

1 *Be it enacted by the Senate and House of Representa-*  
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Vera Rubin Survey  
5 Telescope Designation Act”.

6 **SEC. 2. FINDINGS.**

7 Congress finds the following:



1           (1) Dr. Vera Rubin was born July 23, 1928, to  
2 Philip and Rose Applebaum Cooper.

3           (2) Dr. Rubin pursued her graduate studies at  
4 Cornell University and Georgetown University, earn-  
5 ing her Ph.D. in Physics in 1954.

6           (3) Dr. Rubin's Ph.D. thesis on galaxy motions  
7 provided supporting evidence that galaxies are not  
8 uniformly distributed, but exist in clusters.

9           (4) Dr. Rubin continued to study the motions  
10 of galaxies, first as research associate and assistant  
11 professor at Georgetown University, and then as a  
12 member of the staff at the Carnegie Institution of  
13 Washington Department of Terrestrial Magnetism.

14           (5) Dr. Rubin faced barriers throughout her ca-  
15 reer because of her gender.

16           (6) For instance, one of the world's leading as-  
17 tronomy facilities at the time, the Palomar Observ-  
18 atory, did not permit women. Dr. Rubin persisted  
19 and was finally allowed to observe at Palomar in  
20 1965, the first woman officially allowed to do so.

21           (7) In 1970, Dr. Rubin published measure-  
22 ments of the Andromeda galaxy showing stars and  
23 gas orbiting the galaxy's center too fast to be ex-  
24 plained by the amount of mass associated with the  
25 light output of the stars.

1           (8) In the years that followed, Dr. Rubin and  
2 her collaborators used their observations, in conjunc-  
3 tion with the work by earlier astronomers on the ro-  
4 tation of stars in spiral galaxies, to provide some of  
5 the best evidence for the existence of dark matter.

6           (9) This work contributed to a major shift in  
7 the conventional view of the universe, from one  
8 dominated by ordinary matter such as what pro-  
9 duces the light of stars, to one dominated by dark  
10 matter.

11          (10) Dr. Rubin was elected to the National  
12 Academy of Sciences in 1981, the second woman as-  
13 tronomer to be so honored.

14          (11) Dr. Rubin was awarded the President's  
15 National Medal of Science in 1993 "for her pio-  
16 neering research programs in observational cos-  
17 mology which demonstrated that much of the matter  
18 in the universe is dark, and for significant contribu-  
19 tions to the realization that the universe is more  
20 complex and more mysterious than had been imag-  
21 ined".

22          (12) Dr. Rubin was an outspoken advocate for  
23 the equal treatment and representation of women in  
24 science, and she served as a mentor, supporter, and

1 role model to many women astronomers throughout  
2 her life.

3 (13) The Large Synoptic Survey Telescope,  
4 funded jointly by the National Science Foundation  
5 and the Department of Energy, will honor the legacy  
6 of Dr. Rubin and her colleagues to probe the nature  
7 of dark matter by mapping and cataloguing billions  
8 of galaxies through space and time.

9 **SEC. 3. DESIGNATION.**

10 The Large Synoptic Survey Telescope shall be known  
11 and designated as the “Vera Rubin Survey Telescope”.

12 **SEC. 4. REFERENCES.**

13 Any reference in a law, map, regulation, document,  
14 paper, or other record of the United States to the facility  
15 described in section 3 shall be deemed to be a reference  
16 to the “Vera Rubin Survey Telescope”.

Chairwoman JOHNSON. Without objection, the bill is considered as read and open to amendment at any point.

I recognize myself for comments.

Dr. Vera Rubin was a renowned astronomer and a staunch advocate for women in science. Captivated by the sight of stars drifting across the night sky outside her bedroom window, her excitement for science was sparked at a young age. Dr. Rubin persisted despite facing barriers because of her gender throughout her career. She was also a fierce advocate for expanding opportunities for girls in STEM. She advocated for more women members of the National Academy of Sciences and more women on the review panels and academic research committees.

In 1970, Dr. Rubin published some of the best evidence of the existence of dark matter. This groundbreaking work helped to change the conventional view of the universe from one dominated by light-emitting matter to one dominated by dark matter.

Dr. Rubin went on to become the second woman astronomer elected to the National Academy of Sciences in 1981. She received the National Medal of Science in 1983.

The Large Synoptic Survey Telescope, LSST, set to begin operations in 2023, will build on Dr. Rubin's legacy in advancing our understanding of dark matter. Funded jointly by the National Science Foundation and Department of Energy, LSST will survey the entire southern sky every 3 days. Among other scientific goals, this data will enable astronomers to probe the nature of dark matter.

I cannot think of a more fitting tribute to Vera Rubin's legacy than to designate the LSST as the Vera Rubin Survey Telescope. I want to thank my colleague from Puerto Rico, Ms. González-Colón for joining me in introducing H.R. 3196, and I urge my colleagues to support it.

Is there anyone wishing to make—be recognized? The Chair recognizes—yes, I recognize Ms. González-Colón.

Ms. GONZALEZ-COLON. Thank you, Madam Chairwoman. I really thank you for allowing this bill to go to markup today and for allowing me to be a co-lead on this bill. I think it's important.

I want to thank also Ranking Member Lucas for holding this markup today with very important bills.

I'm a proud co-lead, as I just said, of H.R. 3196, *Vera Rubin Survey Telescope Designation Act*, alongside Chairwoman Johnson.

As the Chair just stated, Dr. Rubin encountered many obstacles during her academic and professional career. As a student, her application to Princeton University was denied because, at the time, women were not allowed to enroll in the astrophysics graduate program of this institution. Similarly, years later, she had problems accessing the Palomar Observatory in California, one of the most iconic scientific facilities in the world, also because she was a woman.

Experiences such as this would be enough to discourage anyone from pursuing studies in STEM and to discourage a young student and a scientist. Still, Dr. Rubin persevered, demonstrating exceptional intellectual capabilities and character.

Dr. Vera Rubin changed the way we understand the universe today. Her groundbreaking work on dark matter and galaxy rota-

tions remain at the forefront of STEM research in the field of astronomy. Her legacy will undoubtedly continue to influence future generations of scientists and will hopefully be memorialized in the new Large Synoptic Survey Telescope in Chile. This telescope, it's currently on track to begin operations in 2023, jointly funded by the National Science Foundation, the Department of Energy, and private funding raised for the telescope. This telescope will soon be utilized by scientists to conduct a wide range of studies, including the nature of dark matter and dark energy, the fields of Dr. Vera Rubin. I'm very much looking forward to the great work that this facility will produce by research actually like Dr. Rubin.

I would like to conclude by saying how grateful I am to be part of this legislation and this Committee. We need to find bipartisan solutions to encourage women and minorities to become and remain interested in careers in STEM. I believe highlighting the sacrifice of their contributions is one of the many ways we can do—we can continue to do so.

I would like to thank Chairman Johnson once more and commend the leadership of this Committee. As someone with a STEM background, I've represented many young girls and women who are either pursuing or interested in pursuing a career in STEM. I think this will encourage their work to be noticed.

With that, I yield back.

Chairwoman JOHNSON. Thank you very much.

Are there others who wish to be recognized?

If not, a reporting quorum being present, I move that the Committee on Science, Space, and Technology report H.R. 3196 to the House with the recommendation that the bill be approved.

Those in favor of the motion will signify by saying aye.

Those opposed, no.

The ayes have it, and the bill is favorably reported.

Without objection, a motion to reconsider is laid on the table, and I ask unanimous consent that staff be authorized to make any necessary technical and conforming changes to the bill. Without objection, so ordered.

Members will have 2 subsequent calendar days in which to submit supplementary, minority, or additional views on the measure.

H.R. 3153

10:45 a.m.

Chairwoman JOHNSON. Now, we'll take up H.R. 3153 for consideration, the *Expanding Findings for Federal Opioid Research and Treatment Act*. And the clerk will report the bill.

The CLERK. H.R. 3153, a bill—

[The bill follows:]