Testimony Presented Before the
House Committee on Higher Education and Technology
Wednesday, February 14, 2024 at 2:00 p.m.
By
Doug Simons, Director
Institute for Astronomy
And
Michael Bruno, PhD
Provost
University of Hawaiʻi at Mānoa

HB 1931 – RELATING TO THE UNIVERSITY OF HAWAII

Chair Perruso, Vice Chair Kapela, and Members of the Committee:

Thank you for the opportunity to provide testimony in strong support of HB 1931. This measure is intended to enable a workforce development program under the new University of Hawaiʻi (UH) Space Sciences Initiative (SSI) as a long-term investment in our keiki and communities.

The Institute for Astronomy (IfA) hosts the State of Hawaiʻi's astronomy program via offices and labs located in Mānoa, Pukalani, and Hilo, and observatories on Haleakalā, Maunakea and Mauna Loa. IfA's mission is deeply embedded in our communities and dedicated to supporting world class research, education, and technology development. With that as background, SSI is an exciting opportunity to leverage multiple existing programs and resources intended to help train local students for careers in astronomy, aerospace and other STEM jobs across Hawaiʻi. In particular, communications and environmental monitoring increasingly rely on platforms deployed in earth orbit, and there are natural synergies between ground-based astronomy and other fields in terms of technology development and workforce training that have direct application in other important areas many of which directly impact Hawaiʻi. Examples include monitoring ocean health and fishing operations, predicting severe weather events, and communications for regions isolated by geography or extreme events.

Last year, in support of SSI, the Legislature approved funding for 10 engineering faculty positions within the College of Engineering and $2M to conduct an architectural study for a building addition to IfA-Hilo that will increase capacity for designing/fabricating instruments, enable new technology development, and provide internships for students. While functioning as one team, half of the new engineering faculty will be located at the College of Engineering in Mānoa and half at IfA-Hilo on the UH Hilo campus. The latter will teach engineering classes for UH Hilo students as a pathway to acquiring degrees in several engineering fields via the College of Engineering. Also, we are now

advertising for those new engineering faculty positions and have formed 3 search committees to evaluate applicants, anticipating the first new faculty to arrive this fall. Moreover, we are in the process of drafting the high-level requirements for the IfA-Hilo building addition, working with UH Facilities to procure a local firm to generate designs and create a bid package for the new building. In addition, we are seeking Federal funds for the building addition, leveraging heavily the State's initial design study investment. Detailed planning is underway between the UH Hilo College of Natural and Health Sciences and UH Mānoa College of Engineering to include engineering classes/curricula at UH Hilo for future engineering students.

Discussions are also underway to provide overall administrative support for SSI within UH and advanced laboratory equipment to support SSI is being procured. Even with all of this activity, there remains an essential SSI component that needs to be sponsored and launched – a dedicated workforce development program designed to engage local schools, engineering/STEM firms, teachers, community organizations, etc. and establish a bridge between students and STEM jobs via SSI. That is the core intent of HB 1931. It is essential that we take an integrated K-career approach, partnering with schools while providing unique engineering internships and learning opportunities, all leading to rewarding STEM careers that diversify the State's economy and help keep our students in Hawai‘i after they graduate. SSI is designed to leverage off existing investments including astronomy, aerospace, and STEM outreach programs, while augmenting and "rewiring" programs and resources within UH to serve as the platform for all of this activity.

IfA is thankful for the investments already made in SSI and committed to ensuring all of the effort and resources at work lead to long-term benefits for our local students and communities. We need to advance SSI on all fronts in parallel because designing each aspect of SSI affects the whole program, and it is most efficient to build-out all core SSI elements and infrastructure together to optimize the entire system SSI represents.

Thank you for the opportunity to provide testimony in support of this bill, provided that its passage does not impact priorities as indicated in our Board of Regents approved budget.

**HB-1931**
Submitted on: 2/13/2024 11:16:33 AM
Testimony for HET on 2/14/2024 2:00:00 PM

| Submitted By | Organization | Testifier Position | Testify |
|---|---|---|---|
| DOUGLASS S ADAMS | County of Hawaii Dept of Research & Development | Support | Written Testimony Only |

Comments:

Chair Perruso, Vice Chair Kapela and Members of the Committee:

Thank you for the opportunity to provide testimony in strong support of HB 1931, which is intended to enable a workforce development program under the new UH Space Sciences Initiative (SSI) as a long term investment in our keiki and communities. The Institute for Astronomy (IfA) hosts the State of Hawai‘i’s astronomy program via offices and labs located in Mānoa, Pukalani, and Hilo, and with observatories on Haleakalā, Maunakea and Mauna Loa. IfA’s mission is deeply embedded in our Hawai‘i island communities and dedicated to supporting world class research, education, and technology development.

With that as background, SSI is an exciting opportunity to leverage multiple existing programs and resources intended to help train local students for careers in astronomy, aerospace and other STEM jobs across Hawai‘i. Last year, in support of SSI, the Legislature approved funding for 10 engineering faculty positions within the College of Engineering and $2M to conduct an architectural study for a building addition to IfA-Hilo that will increase capacity for designing/fabricating instruments, enable new technology development, and provide internships for students. Half of the new engineering faculty will be located at IfA-Hilo on the UH Hilo campus, where they will teach engineering classes for UH Hilo students as a pathway to acquiring degrees in several engineering fields via the College of Engineering.

There remains an essential SSI component that needs to be sponsored and launched – a dedicated workforce development program designed to engage local schools, engineering/STEM firms, teachers, community organizations, etc. and establish a bridge between students and STEM jobs via SSI. That is the core intent of HB 1931, which is vital to taking an integrated K-career approach, partnering with schools while providing unique engineering internships and learning opportunities, all leading to rewarding STEM careers that diversify the State’s economy and help keep our students in Hawai‘i after they graduate. SSI is designed to leverage existing investments including astronomy, aerospace, and STEM outreach programs, while augmenting and “rewiring” programs and resources within UH to serve as the platform for all of this activity.

Hawai‘i County agrees with advancing SSI on all fronts in parallel because designing each

aspect of SSI affects the whole program, and it is most efficient to build-out all core SSI elements and infrastructure together to optimize the entire system SSI represents. We encourage the Committee to forward HB 1931 to the House with a positive recommendation for passage.

very respectfully,

Douglass S. Adams

Director, Department of Research and Development

County of Hawai‘i

LATE *Testimony submitted late may not be considered by the Committee for decision making purposes.

***Jennifer Kagiwada***
*Council Member District 2 South Hilo*

*Office:(808) 961-8272*
*jennifer.kagiwada@hawaiicounty.gov*

# HAWAIʻI COUNTY COUNCIL - DISTRICT 2

25 Aupuni Street • Hilo, Hawaiʻi 96720

DATE: February 14, 2024
TO: House Committee on Higher Education and Technology
FROM: Jennifer Kagiwada, Council Member
Council District 2
SUBJECT: HB 1931

Aloha Chair Perruso, Vice Chair Kapela, and members of the Committee,

I am writing to your Committee in strong support of HB 1931. HB1931 would appropriate funds for salaries and fringe benefits of positions for the University of Hawai'i Institute for Astronomy's Space Sciences Workforce Development Program, Maunakea Scholars Program, and Akamai Internship Program. It also seeks to appropriate funds for office equipment and supplies for the Maunakea Scholars Program and Akamai Internship Program.

This program provides an excellent opportunity for our young people to gain skills and make connections for possible high paying jobs both in and outside of Hawaiʻi. Anecdotally, I have heard from a few Akamai Internship participants that said it opened possibilities for returning to live and work in Hawaiʻi that they previously thought were impossible. Finally, if nothing else, the summer stipend is generous and housing and transportation are provided for those who need it—making it a very good summer employment/internship for our Hawaiʻi college students.

Mahalo,

Jenn Kagiwada

**MKS TESTIMONY FROM MARY BETH LAYCHAK**

To: Representative Amy Perruso, Chair
Representative Jeanne Kapela, Vice Chair
Committee on Higher Education and Technology

From: Mary Beth Laychak, Maunakea Scholars

RE: **HB 1931 - Relating to the University of Hawai‘i - In Support**
DATE: Wednesday, February 14, 2024
TIME: 2PM
PLACE: VIA VIDEOCONFERENCE Conference Room 309

Aloha Chair Perruso, Vice Chair Kapela, and Members of the Committee,

Thank you for bringing this bill before your committee; I am grateful for the opportunity to offer my testimony in **strong support** as the lead program officer for Maunakea Scholars, and to provide additional information about one of the programs this bill proposes to fund.

Maunakea Scholars is a program that is unique amongst any astronomy institution world-wide. It was conceived of and developed on Maunakea and has been working with our kama‘āina kids - primarily those in the DOE system - for nearly a decade. We have expanded to include participating telescopes around the world who contribute viewing time and mentorship to provide more opportunities. The students we serve are, and will remain, exclusively the youth here in Hawai‘i.

By the end of the 2023-2024 school year, **over 1200 students** will have participated in the program from the following high schools:

- Kealakehe HS
- Kohala HS
- Honoka‘a HS
- Waiakea HS
- King Kekaulike HS
- Lāna‘i HS
- Molokai HS
- Kalani HS
- Waipahu HS
- Kapolei HS
- Nanakuli HS
- Kamehameha Schools Kapālma
- Kamehameha Schools Kea‘au

Here’s how the program works:

> Every year, we work one-on-one with the teachers across our network of schools to customize a timeline, curriculum components and mentorship pairings that will work best for the unique needs of their classrooms. The diversity of school needs is vast; some schools

choose to offer the program to AP STEM students or afterschool programs while others integrate Maunakea Scholars into their credit recovery classrooms, students who have met the DOE science requirements for graduation by their junior year.

Our astronomy mentors, the majority of which are UH Institute for Astronomy graduate students, spend time with the students throughout the year, and help them as they shape their research proposals, which are sent into the program committee for evaluation.

Topics range from exploring the moons and planets of our solar system to star formation and outwards in the universe to the really big questions in astronomy about black holes and dark matter. The observations may require spectroscopy, wide-field optical imaging, infrared telescopes, any observation that can be made from Maunakea is possible for these students.

Our time allocation committee evaluates each proposal, looking for programs that are feasible, creative, and most importantly, driven by the students. Programs that meet those criteria, usually one-third of proposals from each school, are then matched with the type of telescope that is best suited to the student's research question. The students that participate in Maunakea Scholars receive the same quality data as professional astronomers, completing their own, independent research projects driven by their curiosity about our universe.

We come to the classrooms for award ceremonies, to celebrate the creativity and ambition of the research proposals and announce which students will receive telescope time, like we did last week at Kapolei.

Budget and logistics permitting, MKS brings each of the classes to Hawai‘i Island to visit the observatories and meet the teams at the telescopes, and when possible, do their observations in real time with the support astronomers on staff, just as a visiting astronomer from any academic institution would experience.

These incredible students go on to do all sorts of things with the knowledge and the confidence they gain as a part of this program. **Our objective is not to grow astrophysicists, but rather to open up opportunities for these students to see new possibilities for themselves and know that they are capable of anything they choose.** Some Maunakea Scholars alumni are teachers, some are engineering or computer science majors, and a few are majoring in astronomy. Including Maunakea Scholars as part of a workforce development program ensures coordinated support for students as they move into post secondary education. The majority of students I know who participated in Maunakea Scholars and followed that experience with Hawai'i based internships in college want to return home to live and work in Hawai'i.

Last week, we held an award ceremony at Kapolei High School that had special significance to me, and to the students who participated.

Laura Daclison is a first year science teacher at Kapolei HS, who loves her students and inspires them every day. Lauren is one of the eight teachers that we are partnering with this year. Lauren is unique amongst them, not only because of her youth and enthusiasm, but because she herself was

a Maunkea Scholar when she was a DOE student at Waipahu HS in 2018-2020. Her experience in the program inspired her to pursue STEM education as a focus of her post-secondary career at UH Mānoa, and she is now proudly serving her community as one of the badly-needed educators that our schools are lucky to have. As a teacher, now, Lauren replaced the long-time Kapolei HS Maunakea Scholars teacher who retired this year. Laura knows first hand how transformative the program can be for them - their sense of self, their confidence, and their readiness to reach for their dreams, no matter what they are.

We started Maunakea Scholars because we fundamentally believe that if there are to be observatories on Maunakea, doing the best astronomical science in the world with the best tools available, those opportunities absolutely must be open to our kamaʻāina youth. We know that this is true, and we are grateful for the chance to support these students as they use these tools toward their own intellectual curiosity and academic opportunities.

With the funding made possible by this bill, we will be able to expand our reach to more classrooms, more research projects, but most importantly, more students. I **strongly support** this bill and so humbly ask for your favorable consideration in passing this measure.

With gratitude,

Mary Beth Laychak

Mary Beth Laychak
Program Lead
Maunakea Scholars

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# Japanese Chamber of Commerce & Industry of Hawaii

February 13, 2024
Re: HB 1931 Relating to the University of Hawaii

House Committee on Higher Education and Technology
Hawaii State Capital
Conference Room 309
415 S. Beretania Street, Honolulu, HI 96813

Chair Perruso, Vice Chair Kapela, and members of the committee,

My name is Garth Yamanaka, and I am the current president of the Japanese Chamber of Commerce and Industry of Hawaii (JCCIH). The Japanese Chamber of Commerce & Industry of Hawaii has been incorporated since 1951 and represents over 300 members of the business community. On behalf of JCCIH, I would like to testify in **strong support of HB1931** which is intended to enable a workforce development program under the new UH Space Sciences Initiative (SSI) as a long-term investment in our keiki and communities.

JCCIH is dedicated to enhancing economic diversity and mitigating talent outflow our community experiences. The growth and development of a Technology Industry locally presents a promising chance to advance these objectives and offer prospects to our younger generation.

For the SSI to succeed, there remains an essential SSI component that needs to be sponsored and launched – a dedicated workforce development program designed to engage local schools, engineering/STEM firms, teachers, community organizations, etc. and establish a bridge between students and STEM jobs via SSI. That is the core intent of HB 1931. It is essential that we take an integrated K-career approach, partnering with schools while providing unique engineering internships and learning opportunities, all leading to rewarding STEM careers that diversify the State's economy and help keep our students in Hawai‘i after they graduate.

JCCIH has been and will continue to be a strong supporter of STEM and the diversification of our economy. We see this as a great opportunity to help our community grow and provide more opportunities for our people. The JCCIH encourages lawmakers to pass **HB1931** for the betterment of the community and the advancement of our people.

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Mahalo,

DocuSigned by:
Garth Yamanaka
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Garth Yamanaka
President, 2023-2024

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# Hawai‘i Island Chamber of Commerce

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February 13, 2024

**Testimony to the House Committee on Higher Education & Technology**
**Wednesday, February 14, 2024, 2:00 pm**

**HB 1931 - RELATING TO THE UNIVERSITY OF HAWAII**

Aloha Chair Perruso, Vice Chair Kapela and Members of the Committee,

The Hawai‘i Island Chamber of Commerce (HICC) is in full **support** of HB 1931 and the benefits this initiative will bring to Hawai‘i Island and our State.

Founded in 1898, HICC has been a part of our island’s business community for 125 years. Our organization is comprised of over 300 member businesses, professionals and non-profit organizations from Hawai‘i Island. We have embraced business and economic development since our humble beginnings.

HB 1931 is intended to enable a workforce development program under the new UH Space Sciences Initiative (SSI) as a long-term investment in our keiki and communities. Through its offices and labs located in Mānoa, Pukalani, and Hilo, and observatories on Haleakalā, Maunakea and Mauna Loa, the University of Hawai‘i’s Institute for Astronomy hosts the State of Hawai‘i’s astronomy program and supports educational opportunities, technology development and world-class research. IFA’s mission dovetails perfectly with SSI’s workforce development program.

SSI is an investment in our children and our communities and will provide opportunity to leverage multiple existing programs and resources intended to help train local students for careers in astronomy, aerospace and other STEM jobs on our island and across the State. What will be exciting will be the opportunities presented in communications and environmental monitoring which includes predicting severe weather events, which rely on platforms deployed in space.

HICC has steadfastly supported the astronomy industry for over 50 years, ever since Chamber Executive Secretary, Mitsuo Akiyama’s work on behalf of our organization significantly contributed to building astronomy into the successful economic driver it is today on our Island. Through our support of this bill and its passage, we hope astronomy will continue to thrive on our Island and offer opportunities to our youth so they know there is a future for them here in Hawai‘i.

Sincerely,

Miles Yoshioka, Executive Officer
Hawai‘i Island Chamber of Commerce

The House Committee on Higher Education and Technology
February 14, 2024
2:00 PM
Room 309

RE: **HB 1931, Relating to the University of Hawaii**

Attention: Chair Amy Perruso, Vice Chair Jeanne Kapela and members of the Committee

The University of Hawaii Professional Assembly (UHPA) appreciates the opportunity to testify in **support of HB 1931**, relating to the University of Hawaii.

HB1931 appropriates funding for full-time positions for the space sciences workforce development program, Maunakea scholars program, and Akamai internship program, as outlined in section 2. This bill will allow the University of Hawaii's Institute for Astronomy to continue providing education, research, and technology development programs to Hawaii's youth, thereby increasing the interest among youth to pursue astronomy, aerospace, and other STEM professions.

UHPA supports and encourages the committee to **pass HB 1931.**

Respectfully submitted,

Christian L. Fern
Executive Director
University of Hawaii Professional Assembly

University of Hawaii
Professional Assembly
1017 Palm Drive ✦ Honolulu, Hawaii 96814-1928
Telephone: (808) 593-2157 ✦ Facsimile: (808) 593-2160
Website: www.uhpa.org

MAUNAKEA OBSERVATORIES

To: Representative Amy Perruso, Chair
Representative Jeanne Kapela, Vice Chair
Committee on Higher Education and Technology

From: Maunakea Observatories

RE: **HB 1931 - Relating to the University of Hawai‘i - In Support**
DATE: Wednesday, February 14, 2024
TIME: 2PM
PLACE: VIA VIDEOCONFERENCE Conference Room 309

Aloha Chair Perruso, Vice Chair Kapela, and Members of the Committee,

Mahalo for the opportunity to provide testimony in support of HB 1931 relating to the University of Hawai‘i. We agree that workforce development programs are essential to foster a sustainable and economically diverse base for science, technology, engineering, and mathematics (STEM) industries, particularly on the neighbor islands. We are grateful for the opportunity to support successful programs that serve that purpose for our kama‘āina youth.

Workforce development programs, including internships and programs that impact students during their K-12 educational journey, have proven over years to be uniquely effective in creating opportunities for local students. They are important so that students have a platform to both embrace exciting possible future pathways for good careers, and more importantly in many cases, to re-imagine what is possible for them and their peers as they look ahead to lives that can include globally-leading work in their fields of choice, right here at home in the Islands. These programs foster meaningful and long-lasting mentorship relationships and offer project-based learning in areas as diverse as computer science, electrical engineering, and astrophysics.

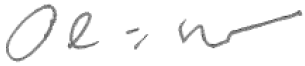
We have been honored to mentor and support many dozens of local students as they grow personally and professionally through these types of programs, and will remain committed to kama’āina students. Stability of funding and staff positions exponentially expands the impact for local youth. As part of our kuleana to our extended community we will support existing programs while working to develop new workforce development initiatives in collaboration with the University of Hawai’i Institute for Astronomy, so that our kama‘āina students can have the freedom of choice to pursue the paths that are interesting and exciting to them.

Thank you for the opportunity to provide testimony for HB 1931. We are available to answer any questions you may have. We ask for your favorable consideration in passing this measure.

With aloha,

Christoph Baranec, Acting Director, University of Hawai‘i 2.2-meter Telescope

Jean-Gabriel Cuby, Director, Canada-France-Hawai‘i Telescope



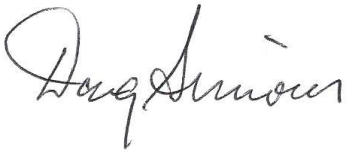
Paul Ho, Director, East Asian Observatory (James Clerk Maxwell Telescope)

Richard Matsuda, Director, W. M. Keck Observatory

Satoshi Miyazaki, Director, Subaru Telescope, National Astronomical Observatory of Japan

Timothy J. Norton, Director, Submillimeter Array

John Rayner, Director, NASA Infrared Telescope Facility



Doug Simons, Director, University of Hawai‘i, Institute for Astronomy

Kona-Kohala
CHAMBER OF COMMERCE

February 13, 2024

RE: House Bill 1931 Relating to the University of Hawai‘i

Dear Chair Perruso, Vice Chair Kapela, and the Committee on Higher Education and Technology,

Founded in 1968, the Kona-Kohala Chamber of Commerce works to enhance the quality of life for our community through a strong, sustainable economy on Hawai‘i Island. With 470 member businesses and organizations, our mission is to provide leadership and advocacy for a successful business environment in West Hawai‘i.

The Kona-Kohala Chamber of Commerce **strongly supports** HB 1931 Relating to the University of Hawai‘i.

This bill proposes to appropriate funds for positions at the University of Hawai‘i Institute for Astronomy's Space Sciences Workforce Development Program, Maunakea Scholars Program, and Akamai Internship Program.

As an organization that supports the growth of Hawai‘i’s technology sector, we believe that this bill will foster innovation, diversify the island’s economy, and provide quality, high-paying jobs for the people of Hawai‘i.

We also believe in educational programs that feed directly into the region’s key industries, including the astronomy industry on Hawai‘i Island. Therefore, we support this educational initiative that promotes workforce skills, as well as workforce development, training, mentoring, and internship programs.

We believe that the passage of HB 1931 is critical for the continued growth and success of Hawai‘i’s economy and its people.

**Please vote to pass HB 1931 Relating to the University of Hawai‘i.**

Sincerely,

Wendy J. Laros, President and CEO
Kona-Kohala Chamber of Commerce

**Kona-Kohala Chamber of Commerce**
75-5737 Kuakini Highway, Suite 208 | Kailua-Kona, HI 96740
info@kona-kohala.com | 808-329-1758 | www.kona-kohala.com

To: Representative Amy Perruso, Chair
Representative Jeanne Kapela, Vice Chair
Committee on Higher Education and Technology

From: Hōkūnani Sanchez

RE: **HB 1931 - Relating to the University of Hawai‘i - In Support**
DATE: Wednesday, February 14, 2024
TIME: 2PM
PLACE: VIA VIDEOCONFERENCE Conference Room 309

Aloha Chair Perruso, Vice Chair Kapela, and Members of the Committee,

My testimony is in **support** of HB 1931 relating to the University of Hawai‘i.
I participated in the Maunakea Scholars program as a student in 2016 - 2018 while I was at Honoka’a High and Intermediate School. It was an experience that was important to me, because throughout my time as a Maunakea Scholar, I had the opportunity to work with advanced instruments involving Gemini Observatory, Keck Observatory, and Canada-France-Hawai’i-Telescope. I was also able connect with people that had opened doors of interest and opportunities to me which I would have never experienced without this program. Not only did Maunakea Scholars encourage me to pursue a higher education and gave me unconditional support and encouragement in my career journey as an Educator, Maunakea Scholars provided like-minded students in my school to come together to share a similar passion, strive to become 1st/2nd generation college graduates, and giving us opportunities to connect with our home communities.

The project I had worked on through this program was the study of Dark Nebulae and star growth within a specific reclusive nebula called LDN483. My partner and I received a Maunakea Scholars award to use CFHT telescope, both their WIRCam and MegaCam. We had observed this nebula in optical and infrared imagers to see past the debris and “empty pockets” the nebula held. Our findings were spectacular, as we found a Herbig-Hero Object, the effect when stars collide and create emissions of ionized gas. Upon this discovery, we committed our time and efforts the rest of our Maunakea Scholars year to research the significance of Herbig-haro objects.

Programs like Maunakea Scholars and Akamai Internships are important because we as kama‘āina deserve access to the best opportunities to learn, work, and take on roles as industry-leading experts in STEM fields if that’s what we choose for ourselves.

The Maunakea Scholars program is one I hold near and dear to my heart. I created relationships with people who only helped me grow and realize I had more potential than I ever thought. I received as much love and support from the people who created Maunakea Scholars as I would from a close relative. This program highlighted my accomplishments, but also made me recognize my mistakes and how to correct them. As I would drive by the observatories in Waimea when I was younger, I thought I would never be able to amount to what I perceived was a very segregated, highly educated, accomplished environment. When Maunakea Scholars brought us to the different observatories, let us utilize advanced equipment, invited us to volunteer at community events around the island, and introduced us to people who showed perseverance to reach their career, I realized I also held the same ability to pursue a higher

education. Maunakea Scholars were pivotal in setting my college pathway and guiding me to my career path as an Educator with a goal to help students, ignite a passion within themselves and realize that they, too, are able to accomplish more than they think.

These programs inspire us and create new pathways, which is why we ask that you pass this bill and make it possible for them to continue to grow.

Mahalo for considering my testimony,
Hōkūnani Sanchez

**HB-1931**
Submitted on: 2/12/2024 7:51:50 PM
Testimony for HET on 2/14/2024 2:00:00 PM

| Submitted By | Organization | Testifier Position | Testify |
|---|---|---|---|
| John Pelletier | Individual | Support | Written Testimony Only |

Comments:

Aloha nui kākou,

As stated in this bill, the Maunakea Scholars and Akamai Internship programs are extremely valuable resources for our keiki in the state of Hawai‘i. The people handling now it have other full-time jobs, and these programs would be elevated to a new level if this measure passes. These programs would thrive if they were lead by people dedicated to making them work, and will provide amazing resources to our keiki. I strongly support passing this measure.

**HB-1931**
Submitted on: 2/12/2024 7:54:09 PM
Testimony for HET on 2/14/2024 2:00:00 PM

| Submitted By | Organization | Testifier Position | Testify |
|---|---|---|---|
| Stephanie Pickett | Individual | Support | Written Testimony Only |

Comments:

Honorable Members of the Legislature,

As the astronomy teacher at Kealakehe High School, I am writing to express my full support for the bill proposing funding for the University of Hawaii Institute for Astronomy's space sciences workforce development program, Maunakea Scholars program, and Akamai internship program. This bill represents a critical investment in the future of our state, particularly in fostering a sustainable and economically diverse base for science, technology, engineering, and mathematics (STEM) industries, especially on the neighbor islands.

I am a product of mentorship and educational opportunities in the field of astronomy. My life was profoundly changed when I had the opportunity to work with an astronomy professor who acted as my mentor during my high school years. This experience ignited my passion for physics and astronomy, leading me to pursue degrees in these fields. Now, as an astronomy teacher, I have the privilege of sharing my passion with my students, many of whom are currently engaged in their Maunakea Scholars proposals—a transformative experience that provides invaluable hands-on learning opportunities.

The Maunakea Scholars program, in partnership with the Department of Education, University of Hawaii, and Maunakea Observatories, has proven to be a groundbreaking initiative. By pairing high school students with mentors and allowing them to design and execute their research projects using observatories on Maunakea and Haleakala, the program empowers students to envision themselves as future leaders in STEM professions. The Akamai internship program further complements this effort by providing college students with valuable STEM internships, leading to fulfilling careers in Hawaii's STEM industries.

Expanding these programs statewide is essential to ensure that all students, regardless of their geographic location or background, have access to high-quality STEM education and career opportunities. By investing in these programs, we are not only stimulating economic growth but also cultivating a skilled workforce that will contribute to Hawaii's innovation and prosperity for generations to come.

Therefore, I urge you to support this bill and provide the necessary funding to the University of Hawaii Institute for Astronomy. By doing so, we will be investing in the future of our state and empowering our youth to reach their full potential in STEM fields.

Sincerely,

Stephanie Pickett

Teacher, Kealakehe High School

To: Representative Amy Perruso, Chair
Representative Jeanne Kapela, Vice Chair
Committee on Higher Education and Technology

From: Jean Claude Dumaslan

RE: **HB 1931 - Relating to the University of Hawai‘i - In Support**
DATE: Wednesday, February 14, 2024
TIME: 2PM
PLACE: VIA VIDEOCONFERENCE Conference Room 309

Aloha Chair Perruso, Vice Chair Kapela, and Members of the Committee,

My testimony is in **support** of HB 1931 relating to the University of Hawai‘i.
I participated in the Maunakea Scholars program as a student in 2018-2019 while I was at Waipahu High School. It was an experience that was important to me because it changed the whole trajectory of my life.

During my time in the program, I studied and observed the spectra of Wolf-Rayet and Luminous Blue Variable stars, two very volatile types of stars. With the help of the Maunakea Scholars program, I was able to use the telescopes on Maunakea, and with the data I collected, I compared the elements identified in those stars to see if they are connected through evolution.

Programs like Maunakea Scholars and Akamai Internships are important because we as kama‘āina deserve access to the best opportunities to learn, work, and take on roles as industry-leading experts in STEM fields if that’s what we choose for ourselves.

In high school, I felt lost as a person. I had no real goals or motivations for myself and I was being pressured to find a “good job”, blindly following in the steps of my family, knowing I wasn’t happy. It wasn’t until the Maunakea Scholars program was introduced to my high school, that I would give something new a try and I haven’t regretted that decision ever since. With the experience I went through in the program and through the help of the many people who guided me along the way, I decided to pursue a career in astronomy, where I graduated with my B.S in Astrophysics at the University of Hawaii at Manoa last May. I’m trying to pursue my Ph.D., currently waiting on decisions from the various graduate schools I applied to.

These programs inspire us and create new pathways, which is why we ask that you pass this bill and make it possible for them to continue to grow.

Mahalo for considering my testimony,
Jean Claude Dumaslan

To: Representative Amy Perruso, Chair

Representative Jeanne Kapela, Vice Chair

Committee on Higher Education and Technology

From: Nathan Weir

RE: **HB 1931 - Relating to the University of Hawai‘i - In Support**

DATE: Wednesday, February 14, 2024

TIME: 2PM

PLACE: VIA VIDEOCONFERENCE Conference Room 309

Aloha Chair Perruso, Vice Chair Kapela, and Members of the Committee,

My testimony is in **support** of HB 1931 relating to the University of Hawai‘i.

I participated in the Mauna Kea Scholars program as a student in my Sophomore-Senior years of high school (2017-2020) while I was at Kealakehe High School. It was an experience that was important to me for so many reasons, the most important of which being my ability to explore and learn in a field usually restricted to high level college projects, which pushed me to pursue astronomy in college, and despite not staying with the major, it was something that helped me grow and learn in college.

My project was a project that aimed to study the accretion disks of supermassive black holes when compared to stellar mass black holes to determine if the chemical composition of the accretion disk itself was enough to allow for supermassive black hole formation. It was a project that I worked on for years, in science fairs, for school projects, and alongside help from CFHT. It taught me so much about the world around me and was an inspiration for my continued efforts in school. My high school experience would not have been the same without these programs, and I would want each and every driven high school student to be able to receive a similar experience as I did.

Programs like Maunakea Scholars and Akamai Internships are important because we as kamaʻāina deserve access to the best opportunities to learn, work, and take on roles as industry-leading experts in STEM fields if that's what we choose for ourselves. It also allows for a greater reach and penetration into the community in ways that opens up and promotes science and astronomy in a culture and place with deep roots in astronomical practices.

When I was fortunate enough to participate in the program alongside a number of my peers that same year, I was presented with an opportunity to interact with a whole side of science and culture that I had not known was available. I was supported and pushed in way that promoted growth. For example, my science fair project that was based on and rooted around my project ended up making it to the State level competition, where I was able to present and talk about my project with industry professionals, giving me insights into the methods vital to becoming an astronomer. It was a life changing experience, so much so that I almost majored in Astronomy, and several peers of mine are choosing to major in astronomy as a result of their time with Mauna Kea Scholars.

These programs inspire us and create new pathways, which is why we ask that you pass this bill and make it possible for them to continue to grow.

Mahalo for considering my testimony,

Nathan Weir

**HB-1931**
Submitted on: 2/13/2024 8:59:19 AM
Testimony for HET on 2/14/2024 2:00:00 PM

| Submitted By | Organization | Testifier Position | Testify |
|---|---|---|---|
| Kuulei F | Individual | Support | Written Testimony Only |

Comments:

I grew up in Waimea on Hawai'i Island. I went to a public school and undergraduate school in Hawai'i as well. Looking back on my childhood and my time in undergraduate school, I always wished I had opportunities that could encourage me that careers in (Science, Technology, Engineering and Math) STEM are possible. Only as an adult I gathered the courage to go back to school for a medical degree, and finished in the mainland. These programs help inspire students to pursue thier passion, no matter what field it may be and also keep our kamaaina keiki here to perpetuate our Hawaiian local culture. Please consider this bill for future generations of keiki to become strong leaders in the community using skills in STEM.

**HB-1931**
Submitted on: 2/13/2024 9:08:17 AM
Testimony for HET on 2/14/2024 2:00:00 PM

| Submitted By | Organization | Testifier Position | Testify |
|---|---|---|---|
| Roberta F. Chu | Individual | Support | Written Testimony Only |

Comments:

Testimony Presented Before the
House Committee on Higher Education and Technology
Wednesday, February 14, 2024, 2:00 pm
By
ROBERTA F. CHU

HB 1931 - RELATING TO THE UNIVERSITY OF HAWAII
Chair Perruso, Vice Chair Kapela and Members of the Committee

It is a pleasure to provide testimony in strong support of HB 1931 which is intended to enable a workforce development program under the new UH Space Sciences Initiative (SSI) as a long term investment in our keiki and communities. The Institute for Astronomy (IfA) hosts the State of Hawai‘i’s astronomy program via offices and labs located in Mānoa, Pukalani, and Hilo, and observatories on Haleakalā, Maunakea and Mauna Loa. IfA’s mission is deeply embedded in our communities and dedicated to supporting world class research, education, and technology development. With that as background, SSI is an exciting opportunity to leverage multiple existing programs and resources intended to help train local students for careers in astronomy, aerospace and other STEM jobs across Hawai‘i. In particular, communications and environmental monitoring increasingly rely on platforms deployed in earth orbit, and there are natural synergies between ground-based astronomy and other fields in terms of technology development and workforce training that have direct application in other important areas many of which directly impact Hawaii. Examples include monitoring ocean health and fishing operations, predicting severe weather events, and communications for regions isolated by geography or extreme events.
Last year, in support of SSI, the Legislature approved funding for 10 engineering faculty positions within the College of Engineering and $2M to conduct an architectural study for a building addition to IfA-Hilo that will increase capacity for designing/fabricating instruments, enable new technology development, and provide internships for students. While functioning as one team, half of the new engineering faculty will be located at the College of Engineering in Mānoa and half at IfA-Hilo on the UH Hilo campus. The latter will teach engineering classes for UH Hilo students as a pathway to acquiring degrees in several engineering fields via the College of Engineering. We are now advertising for those new engineering faculty positions and have formed 3 search committees to evaluate applicants, anticipating the first new faculty to arrive this fall. We are also in the process of drafting the high-level requirements for the IfA-Hilo

building addition, working with UH Facilities to procure a local firm to generate designs and create a bid package for the new building. We are also seeking Federal funds for the building addition, leveraging heavily the State's initial design study investment. Detailed planning is underway between the UH Hilo College of Natural and Health Sciences and UH Mānoa College of Engineering to include engineering classes/curricula at UH Hilo for future engineering students. Discussions are also underway to provide overall administrative support for SSI within UH and advanced laboratory equipment to support SSI is being procured. Even with all of this activity, there remains an essential SSI component that needs to be sponsored and launched – a dedicated workforce development program designed to engage local schools, engineering/STEM firms, teachers, community organizations, etc. and establish a bridge between students and STEM jobs via SSI. That is the core intent of HB 1931. It is essential that we take an integrated K-career approach, partnering with schools while providing unique engineering internships and learning opportunities, all leading to rewarding STEM careers that diversify the State's economy and help keep our students in Hawai‘i after they graduate. SSI is designed to leverage off existing investments including astronomy, aerospace, and STEM outreach programs, while augmenting and "rewiring" programs and resources within UH to serve as the platform for all of this activity.

IfA is thankful for the investments already made in SSI and committed to ensuring all of the effort and resources at work lead to long-term benefits for our local students and communities. We need to advance SSI on all fronts in parallel because designing each aspect of SSI affects the whole program, and it is most efficient to build-out all core SSI elements and infrastructure together to optimize the entire system SSI represents.

Thank you for the opportunity to provide testimony in support of this bill.

ROBERTA F. CHU
478 KIPUNI STREET
HILO, HI 96720

**HB-1931**
Submitted on: 2/13/2024 9:22:31 AM
Testimony for HET on 2/14/2024 2:00:00 PM

| Submitted By | Organization | Testifier Position | Testify |
|---|---|---|---|
| cheryl burghardt | Individual | Comments | Written Testimony Only |

Comments:

Please accept the following COMMENTS on this bill, HB 1931which appropriates funds for salaries and fringe benefits of positions for the University of Hawaii Institute for Astronomy's Space Sciences Workforce Development Program, Maunakea Scholars Program, and Akamai Internship Program. Appropriates funds for office equipment and supplies for the Maunakea Scholars Program and Akamai Internship Program.

As I read through this bill, it brings forth the following concerns:

1. What data/evidence has been shown to validate this statement: "which combined have more than $200,000,000 in annual economic impact statewide". Through the years, we have seen statements similar to this with no actual concrete, line-item evidence. Where is the proof?

2. There seems to be a lot of supposition and opinion in this bill "can serve as the basis for a workforce development program that substantially deepens the long-term benefits of these investments for local students, businesses, and communities." "Most Akamai interns are engineering majors, with around fifty per cent being underrepresented minorities, twenty-five per cent being Native Hawaiian, and forty per cent being women" "Each summer, over thirty local undergraduates have Akamai internships... 30 people supervised by $200,000 employee? How does this "work force" program benefit these areas and which communities will it actually benefit? How do the $ allocated for a program like this benefit our goals of island sustainability for all?

3. "the University of Hawaii's institute for astronomy, which hosts the State's astronomy program, has extensive education, research, and technology development programs in place and is already coupled to numerous astronomy and aerospace entities." . IAF "hosts" the astronomy program which means what exactly? Do they pay the salaries, provide the building and how much do the "numerous astronomy and aerospace entities" contribute and influence the direction of the "state‘s" astronomy program? This is concerning if governments, foreign and US as well as corporations are influencing state policy and direction in this area.

4. "The sum appropriated shall be expended by the University of Hawaii for the purposes of this Act." So the funds for IAF initiatives go through UH? Are they separate or not? The allocations of almost $1million dollars seems in excess for the request and there is no check and balance built in from what I can see?

5. It is understood that programs like Mauna Kea Scholars have provided opportunites for many people. It is also understood by me, as an educator, that opportunities in these areas are paths that are important in today‘s global collaborations. My concern is that IAF, UH and the legislature with the focus on STEM as a path is done to the neglect of other sciences, arts and education at UH. There is not only just one "science" at UH. To continually put one as a "priority" over so many other important paths is a disservice to our community.

Thank you for your consideration of my comments. I feel that some of these questions about IAF and its relationship to UH as well as the continued push for one area of study vs others are ones that have needed to be asked for a long time and hope they will be considered before deciding to proceed on this bill.

To: Representative Amy Perruso, Chair
Representative Jeanne Kapela, Vice Chair
Committee on Higher Education and Technology

From: Kiana Ejercito

RE: **HB 1931 - Relating to the University of Hawai‘i - In Support**
DATE: Wednesday, February 14, 2024
TIME: 2PM
PLACE: VIA VIDEOCONFERENCE Conference Room 309

Aloha Chair Perruso, Vice Chair Kapela, and Members of the Committee,

My testimony is in **support** of HB 1931 relating to the University of Hawai‘i.
I participated in the Maunakea Scholars program as a student in 2021 at Kalani High School, and the Akamai Workforce Initiative as a student in 2023 while I was at UH Manoa. Both experiences were very important to me and truly helped encourage me to join the Astronomy field, and explore my passion.

As a Maunakea scholar, my project proposed dark matter mapping. While my project was not chosen, it inspired me to work harder, and connected me to a graduate student who I was able to discuss with about being an astronomer. Then, I was fortunate to participate in an internship at the Institute for Astronomy, where I met the graduate student again! It has been amazing to see how far I have come, starting from this program. Additionally, I had always felt that it was difficult to learn more about astronomy because there were no classes specializing in astronomy at my high school. The Maunakea Scholars Program was therefore crucial to inspire me to major in Astrophysics because it provided me with real-life experience and helped me learn more about the field.

As a 2023 Akamai Intern, I worked on looking at relative bending losses to determine performance requirements for the Fiber Optic Broadband Optical Spectrograph, a spectrograph in development for the W.M. Keck Telescope. Our goal was to test throughput and focal ratio degradation when adding stress to fibers of different numerical apertures by adding loops into the fiber. At UC Santa Cruz, it was amazing to do hands-on work: aligning the optical system, imaging the fiber output, and experimenting with different setups. We also got to tour the DESI labs and see the actual robotic arm fiber positioners. There, I saw the passion of the scientists who helped develop DESI and now get to use it for their own research, which deeply inspired me. This internship was very important in allowing me to learn about a different subfield in astronomy and helped me find a passion in instrumentation.

These two programs are very important because by giving kama‘āina opportunities in STEM, it encourages us to find jobs here and help our community. Additionally, I believe that by offering these programs, it may allow to connect the local community to astronomy better. These programs have made me feel very supported in following my passion to become an astronomer. In the future, my goal is to become a researcher and professor and teach here in Hawaii. Participating in the Maunakea Scholars and Akamai Workforce Initiative has allowed me to make more connections and learn more about the astronomy community in Hawaii. These programs inspire local students like me, create new pathways, and help us explore our

passions. Therefore, we ask that you pass this bill and make it possible for programs like these to continue to grow.

Mahalo for considering my testimony,
Kiana Ejercito

**HB-1931**
Submitted on: 2/13/2024 9:48:11 AM
Testimony for HET on 2/14/2024 2:00:00 PM

| Submitted By | Organization | Testifier Position | Testify |
|---|---|---|---|
| Eric Gee | Individual | Support | Written Testimony Only |

Comments:

Aloha Chair Perruso and Vice Chair Kapela,

My name is Eric Pōmaikaʻi Gee, and I am a senior at Kealakehe High School in Kailua Kona on Hawaiʻi Island in **STRONG SUPPORT** for HB1931. In my junior year of high school, I had the opportunity to participate in the Mauna Kea Scholars Program through my STEM academy. This program gives students opportunities to explore astronomy pathways on a local level while still being students. I personally have seen my peers benefit from getting telescope time to explore projects such as "The Metallicity of the Monkey Head Nebula," "The Light Curves of GW Orionis," and even "Predicting Supernova Utilizing Information from the Eta Carina Nebula alongside the Wings of a Butterfly Nebula." All of these projects were rewarded with telescope time, where students were able to analyze data that is normally not available. Continuing to fund and provide resources for this program will encourage future students to pursue a career in the STEM field. With the rapid development of artificial intelligence, there has never been a more critical time to support HB1931.

Mahalo,

Eric Pōmaikaʻi Gee

Chairperson, *Hawaiʻi County Youth Commission*

Treasurer, *Hawaiʻi County Youth Commission*

**HB-1931**
Submitted on: 2/13/2024 10:03:01 AM
Testimony for HET on 2/14/2024 2:00:00 PM

| Submitted By | Organization | Testifier Position | Testify |
|---|---|---|---|
| Nutnicha Go | Individual | Support | Written Testimony Only |

Comments:

Aloha Chair Perruso, Vice Chair Kapela, and Members of the Committee,

My testimony is in support of HB 1931 relating to the University of Hawai‘i.

I participated in the Maunakea Scholars program as a student in 2023-2024 at Kealakehe High School. It was an experience that was important to me because it allowed me to deeply explore astronomy as well as allowing me the opportunity to explore space science and space technologies.

My project that I decided to continue with the Mauankea Scholars program is the study of “Metallicities of the Monkey Head Nebula.” My mission is to expand on the research on the Monkey Head Nebula as there is little research done on it. I am using the Las Cumbres Telescopes and am currently analyzing the nebula by utilizing spectroscopy and graphing spectra graphs to plot out where there are fluctuations in certain elements such as H-Alpha, O3, and S2.

Programs like Maunakea Scholars are important because we as kama‘āina deserve access to the best opportunities to learn, work, and take on roles as industry-leading experts in STEM fields if that’s what we choose for ourselves.

I have always wanted to explore different career fields relating to astronomy and the Maunakea Scholars program allowed me to do just that. I never thought that I would be able to collect real time data about a celestial object in space and then learn how to analyze that data into something that people can understand. With this program, it allowed me to connect with astronomers from our island and use high level technology such as the Las Cumbres Telescope.

These programs inspire us and create new pathways, which is why we ask that you pass this bill and make it possible for them to continue to grow.

Mahalo for considering my testimony,

Nutnicha Go

**HB-1931**
Submitted on: 2/13/2024 10:05:11 AM
Testimony for HET on 2/14/2024 2:00:00 PM

| Submitted By | Organization | Testifier Position | Testify |
|---|---|---|---|
| Kayla Robertsom | Individual | Support | Written Testimony Only |

Comments:

Aloha Chair Perruso and Chair Kapela,

My testimony is in **support** of HB1931 relating to the University of Hawai'i.

I participated in the Mauna Kea Scholars program as a recipient and student for two years now while I was at Kealakehe High School. It was an experience that was important to me, because I've been able to use the telescopes on Mauna Kea to further my astronomy research. I've also got the opportunity to gain connections through my mentor Kenji Emerson and Dr. Leslie Young.

My project focuses on dune formations on bodies in space other than Earth. I am looking at Titan (Saturn's largest moon) and Pluto. My project specifically focuses on comparing Titan and Pluto to a pure methane ice model to see how it affects dunes. Since, both of these bodies are theorized to have their dunes created from sublimation of methane ice.

Programs like Mauna Kea Scholars are important because we students deserve access to the best opportunities to learn, work, and take on roles as industry-leading experts in STEM fields if that's what we choose for ourselves.

The Mauna Kea Scholars program has opened up many opportunities for me. I am not only working on my original project. I have also started working on a new project about Makemake. Again, I will gain access to telescopes to collect data.

These programs inspire us and create new pathways, which is why we ask that you pass this bill and make it possible for them to continue to grow.

Mahalo for considering my testimony,

Kayla Robertson

**HB-1931**
Submitted on: 2/13/2024 10:28:41 AM
Testimony for HET on 2/14/2024 2:00:00 PM

| Submitted By | Organization | Testifier Position | Testify |
|---|---|---|---|
| Mei Kanada | Individual | Support | Written Testimony Only |

Comments:

Honorable Members of the Legislature,

I am writing to express my strong support for HB1931. As a student at Kealakehe High School, I have personally experienced the transformative power of STEM education, and I believe that investing in these programs is essential for the future of our state.

STEM industries play a crucial role in driving innovation and economic growth, and it is vital that we prepare the next generation of leaders to succeed in these fields. The Maunakea Scholars Program has provided me with valuable skills and resources for the astronomy and STEM field. By funding positions within the University of Hawai‘i Institute for Astronomy, this bill will provide students like me with invaluable opportunities to engage in hands-on learning experiences and develop the skills needed to pursue careers in STEM.

In conclusion, I urge you to support HB1931 and invest in the future of Hawai‘i's STEM workforce. By doing so, you will not only empower students like me to pursue our passions but also help to build a stronger and more prosperous future for our state.

Thank you for your time and consideration.

Sincerely,

Mei Kanada

To: Representative Amy Perruso, Chair
Representative Jeanne Kapela, Vice Chair
Committee on Higher Education and Technology

From: Naidah Gamurot

RE: **HB 1931 - Relating to the University of Hawai‘i - In Support**
DATE: Wednesday, February 14, 2024
TIME: 2PM
PLACE: VIA VIDEOCONFERENCE Conference Room 309

Aloha Chair Perruso, Vice Chair Kapela, and Members of the Committee,

My testimony is in **support** of HB 1931 relating to the University of Hawai‘i.
I participated in the Maunakea Scholars program as a teacher at Kapolei High since its inception in 2015. It was an experience that was important to me as a teacher, but even more important because of the role it played in both the academic and personal development of my students.

The program provides an authentic partnership with professionals from Maunakea, the Institute for Astronomy at UH, and occasionally mentorships from other institutions around the world. Students are tasked to traverse the same path professional astronomers take to request telescope time on Maunakea. Though they only had a semester of astronomy with me (which also included lectures from UC-Berkeley, as well as IFA-UH instructors and mentors), they still had to complete comprehensive research in an area of interest and find currently unanswered questions in which to develop a research project and subsequent professional proposal to compete for telescope time. They had to write up proposals containing the exact same information that all other professionals competing for telescope time had to submit (which telescope and instruments to use, identifying the wavelengths, the significance of their proposal, etc.). But, it was effect the project had on my students that I found most valuable.

What high school student would even think they could compete with professional astronomers for telescope time on Maunakea? Granted, they have no where near the academic knowledge of the professional astronomers, but our students do have an open mind, were not limited by knowledge, and an imagination and willingness to try (Okay. Truth be told, I did have to force some of them. It’s a teacher skill. More about the effects of that later.)

Astronomers from around the world vying for telescope time are ranked for each telescope. One of my students was ranked #5 for the telescope she was competing for. She was looking for the astronomical source of water found on the earth by comparing the isotopic composition of earth’s water to that found on an asteroid within our solar system. Of course, we cannot go to that asteroid, so the information needed to be gathered from wavelengths of light. And this was the backbone of her proposal.

During my 44 years of teaching, I have come to believe that the only limits our students have are those their educational system places upon them. Yes, books and lectures definitely have a place in education. They are a concentrated form of foundational information. But, it’s the opportunities afforded them to apply, and then go beyond what they ever thought they were capable of doing, that will propel our young people to the upper echelons. And this, I believe

has been the highest contribution of the Maunakea Scholars Program – developing students who believe they can.

My students have an extremely high regard for professional scientists. And most believe they don't have the ability to ever attain that level, let alone even try. This program gave them an opportunity to work directly with scientists. They became friends. They learned that even the professional scientists don't know everything, but must confer with others. They learned that even they could traverse that same path – because they did. They did it as they went through the entire process and wrote a proposal they never thought they would ever be capable of doing, and they did it in high school – though not on a high school level. I've had a number of students tell me that they shared their Maunakea proposals with their college professors. Their professors told them that level of work is what they expect of their graduate students. Though not all students receive telescope time, they were still informed how it feel short, what was good about their proposal, and possible recommendations – real life.

Now remember the students I referred to above, the ones I forced to complete their proposals? They also now knew they were capable. They could communicate with professional scientists, freely ask questions and have discussions without feely "dumb." They learned what a professional learning community is and that they can comfortably be a part of that community.

My students have become confident in their ability to go on to higher education and to compete with Mainland and international students. They had a "dry run" in high school and had succeeded – not because they earned telescope time, but because they saw that they were capable of successfully going through the process - an authentic process.

Hawai'i is uniquely suited to many of the sciences. We are a real-life laboratory for a multitude of the natural sciences. We need to grasp and utilize what we have that other states do not. And, it's not just the science. It's the technology, researching, writing – all those STEM-related fields that are needed, as a group of people, specialists in their own fields come together to further each of these sciences. And, it's not just for Hawaii. The technologies we build here – for example, light and wavelengths technologies on Maunakea, help the human condition for the entire planet.

Programs like Maunakea Scholars and Akamai Internships are important because we as kama'āina deserve access to the best opportunities to learn, work, and take on roles as industry-leading experts in STEM fields if that's what we choose for ourselves.

These programs inspire us and create new pathways, which is why we ask that you pass this bill and make it possible for them to continue to grow.

Mahalo for considering my testimony,

Naidah Gamurot

Kapolei High School, retired 12/31/2023

To: Representative Amy Perruso, Chair
Representative Jeanne Kapela, Vice Chair
Committee on Higher Education and Technology

From: Brock Taylor

RE: **HB 1931 - Relating to the University of Hawai‘i - In Support**
DATE: Wednesday, February 14, 2024
TIME: 2PM
PLACE: VIA VIDEOCONFERENCE Conference Room 309

Aloha Chair Perruso, Vice Chair Kapela, and Members of the Committee,

My testimony is in **support** of HB 1931 relating to the University of Hawai‘i.
I participated in the Maunakea Scholars program as a student in 2019 while I was at Kealakehe High School. It was an experience that was important to me because it gave me an opportunity to interact with a part of Hawaii's STEM industry that is otherwise unavailable to high school students, allowing me to experience early on what STEM has to offer.

My project was titled "Analyzing the Composition of Accretion Disks of Supermassive vs Stellar Black Holes" and centered around using spectroscopy to determine the chemical composition of accretion disks of different-sized black holes.

Programs like Maunakea Scholars and Akamai Internships are important because we as kama‘āina deserve access to the best opportunities to learn, work, and take on roles as industry-leading experts in STEM fields if that's what we choose for ourselves.

The Maunakea Scholars program introduced me to Canada France Hawaii Telescope and allowed me the opportunity to work with them on multiple projects during high school. Additionally, the Akamai Internships program allowed me the opportunity to intern at CFHT during college, an experience that has directly shaped my educational and professional development.

These programs inspire us and create new pathways, which is why we ask that you pass this bill and make it possible for them to continue to grow.

Mahalo for considering my testimony,
Brock Taylor

To: Representative Amy Perruso, Chair
Representative Jeanne Kapela, Vice Chair
Committee on Higher Education and Technology
From: William Sankey
RE: HB 1931 - Relating to the University of Hawai‘i - In Support
DATE: Wednesday, February 14, 2024
TIME: 2PM
PLACE: VIA VIDEOCONFERENCE Conference Room 309

Aloha Chair Perruso, Vice Chair Kapela, and Members of the Committee,

My testimony is in support of HB 1931 relating to the University of Hawai‘i.
I participated in the Maunakea Scholars/Akamai Internships program as a teacher for the past 5 years at Lanai High & Elementary School. It was an experience that was important to me, because it opened the door to the universe for my students. The program gets my students excited about learning, exploring the evening skies and making new discoveries.

Programs like Maunakea Scholars and Akamai Internships are important because we as kama‘āina deserve access to the best opportunities to learn, work, and take on roles as industry-leading experts in STEM fields if that’s what we choose for ourselves.
These programs inspire us and create new pathways, which is why we ask that you pass this bill and make it possible for them to continue to grow.
Mahalo for considering my testimony,
William Sankey

To: Representative Amy Perruso, Chair
Representative Jeanne Kapela, Vice Chair
Committee on Higher Education and Technology

From: Laura Daclison

RE: **HB 1931 - Relating to the University of Hawai‘i - In Support**
DATE: Wednesday, February 14, 2024
TIME: 2PM
PLACE: VIA VIDEOCONFERENCE Conference Room 309

Aloha Chair Perruso, Vice Chair Kapela, and Members of the Committee,

My testimony is in **support** of HB 1931 relating to the University of Hawai‘i.
I participated in the Maunakea Scholars program as a student from Waipahu High School and a Teacher at Kapolei High School. It was an experience that was important to me, because it gave me a learning opportunity to help me grow as a student. This has also influenced my career path in the greatest way possible.

My project was the first to receive telescope time from one of the most powerful telescopes - the Keck Observatory. I was curious about planets that orbited multiple stars. The system that I observed was the Kepler-35 system, where there was a circumbinary planet orbiting around a binary star system, similar to Tatooine from Star Wars. I found this even more intriguing because this planet had similar traits to Earth, it was about the same size and had the same rocky structure. Through the Mauna Kea Scholars Program, I was given the opportunity to have direct access to the most powerful telescope and obtain data. I was able to present my findings in high school-level science fair, district science fair, and state science fair.

As a first-year teacher, I wanted to be involved in this program. I was able to connect with the program director on campus and quickly implemented this in my Chemistry curriculum. This program has enlivened my classroom and given my students motivation to exceed limits. My students were challenged to research their Mauna Kea Scholars project while also following the Chemistry curriculum at the same time. Because I was open about my own experience with the Mauna Kea Scholars Program as a high school student and presented the opportunity, my students all had a drive to complete their research on the side, hoping to follow in my footsteps. Students that have won telescope time are so proud of themselves and their work, they are all excited to access the most powerful telescopes in our trip to Mauna Kea.

Programs like Maunakea Scholars and Akamai Internships are important because we as kama‘āina deserve access to the best opportunities to learn, work, and take on roles as industry-leading experts in STEM fields if that’s what we choose for ourselves.

I was able to clearly define my career path after this entire experience. This whole time I knew I wanted a teacher but never decided what I should teach… This program helped me realize my calling - to be a science teacher at high school level! After high school, I went straight into the degree, Secondary Education - General Science in hopes of becoming a science teacher. If there were the opportunity to teach astronomy, I would have happily chosen that content area rather than general science. I am currently a chemistry and environmental science teacher and wanted the same for my students. Next year, I asked to teach the course closest to astronomy,

which is Earth System Sciences. I hope to continue giving my students this opportunity and change their lives.

These programs inspire us and create new pathways, which is why we ask that you pass this bill and make it possible for them to continue to grow.

Mahalo for considering my testimony,
Laura Daclison

To: Representative Amy Perruso, Chair
Representative Jeanne Kapela, Vice Chair
Committee on Higher Education and Technology

From: Alison English

RE: **HB 1931 - Relating to the University of Hawai‘i - In Support**
DATE: Wednesday, February 14, 2024
TIME: 2PM
PLACE: VIA VIDEOCONFERENCE Conference Room 309

Aloha Chair Perruso, Vice Chair Kapela, and Members of the Committee,

My testimony is in **support** of HB 1931 relating to the University of Hawai‘i.
I participated in the Maunakea Scholars and Akamai Internships program as a veteran high school teacher for the last 27 years here at Honoka’a High and intermediate School. I have also served as a guest lecturer for the University of Hawaii at Hilo, and formerly NHERC for the past 13 years. This program has been so beneficial for me and my students in a variety of ways. My students at the high school have gone on countless field experiences and summit tours sponsored by the Mauna Kea Scholars Program. This has inspired them to write proposals and be granted telescope time at our world class observatories. My students have produced award winning science fair projects based on these experiences. The prestige of participating in this program has opened doors for my students to enable them to pursue careers in STEM. Some have even gone on to major in Astronomy and Aeronautical Design as a direct result of this program. It has been so instrumental in their lives. I have even had several of my University of Hawaii Astronomy students participate in the Akamai internship program. These types of unique experiences are career defining for students seeking graduate admissions in STEM programs, such as Astronomy. The Mauna Kea Scholars and Akamai Internship Program has been so generous to me and my students, both at the high school and university level. I am truly grateful, and hope that you fund this crucial position.

We need to educate and keep our brightest and best here at home and help provide a means for lucrative, enriching careers in the STEM fields. Please pass the bill so we can continue to inspire our haumana to challenge themselves and reach their full potential through these unique opportunities here on the Big Island.

Mahalo for your kokua and for taking the time to read my heartfelt testimony.
Sincerely,
Alison F. English
Honoka’a High and Intermediate
University of Hawai’i at Hilo, College of Natural Sciences
alison.english@k12.hi.us

LATE *Testimony submitted late may not be considered by the Committee for decision making purposes.

**HB-1931**
Submitted on: 2/13/2024 2:58:54 PM
Testimony for HET on 2/14/2024 2:00:00 PM

| Submitted By | Organization | Testifier Position | Testify |
|---|---|---|---|
| Phil Barnes | Individual | Support | Written Testimony Only |

Comments:

I would urge you to pass this important piece of legislation. Mauna Kea is unquestionably the premier site for earth based telescopes. This funding will help to create the highly paid workforce that is essential for the smooth operation of these telescopes. There is constant talk about diversifying our economy and creating this workforce with local folks trained in the various STEM occupations builds toward this goal. Thank you for your consideration.

LATE *Testimony submitted late may not be considered by the Committee for decision making purposes.

To: Representative Amy Perruso, Chair
Representative Jeanne Kapela, Vice Chair
Committee on Higher Education and Technology

From: Justin Manuel R. Bergonio

RE: **HB 1931 - Relating to the University of Hawai‘i - In Support**
DATE: Wednesday, February 14, 2024
TIME: 2PM
PLACE: VIA VIDEOCONFERENCE Conference Room 309

Aloha Chair Perruso, Vice Chair Kapela, and Members of the Committee,

My testimony is in **support** of HB 1931 relating to the University of Hawai‘i.
I am a teacher at Waipahu High School and I have recently had the privilege to continue the Maunakea Scholars program here at Waipahu High for the past two years. It was an experience that was important to me because it has given me the chance to inspire our students from all different backgrounds to not only appreciate the scientific process, but to also see the unlimited potential in themselves.

The connection between Waipahu High and the Maunakea Scholars program can be traced back to 2018 thanks to former physics and Academy of Engineering physics teacher Tessie Ford. In that time we have seen at least nine student projects being awarded coveted time with Maunakea Observatories, several honorable mentions, and even one student awarded the $10,000 Hokuala scholarship. Accolades and numbers aside, one thing that cannot be quantified is the time and dedication of those who support our students on their journeys in the program: Mary Beth Laychak and the mentors at the Institute for Astronomy. Despite having to juggle the program through many schools throughout all the islands of Hawai’i, they manage to give one-on-one time to our students, guiding them as they formulate their research proposals and mentoring them after they receive telescope time on their science projects. The human factor in this process is what really makes the difference between this program and all others out there. Furthermore, when the students are able to visit the observatory, see their data being collected in real time in the biting cold of a telescope control room 32,000 feet above sea level, and to learn from professional astronomers and telescope operators–it is just really something magical.

Programs like Maunakea Scholars and Akamai Internships are important because we as kama‘āina deserve access to the best opportunities to learn, work, and take on roles as industry-leading experts in STEM fields if that’s what we choose for ourselves.

In addition to the positive impacts this program has had on our students here at Waipahu High, being a part of the Maunakea Scholars program as a teacher has impacted my practice and even outlook as an educator. As a teacher, we are asked to wear many hats and do many things to make happy everyone: our community, our students, our administrators, our stakeholders–and the list goes on. It is easy for teachers to quickly become jaded and burn out of the profession. However, thanks to this program, I feel like I’ve been reinvigorated and replenished to teach longer with a lot more purpose. I’m excited to not only share the exciting new discoveries to our Maunakea Scholar students, but I’m also excited to share it with my geometry and calculus students, too! It has injected new life into my practice as I no longer see the disjointed subjects as stand-alone things to be checked off–but rather a beautiful tapestry of things that work together to paint a pretty picture that is the universe. I hope to share this passion and beauty with everyone I meet because the world can be a beautiful place when you give yourself the chance to look up and see it.

These programs inspire us and create new pathways, which is why we ask that you pass this bill and make it possible for them to continue to grow.

Mahalo for considering my testimony.

Sincerely,
Justin R. Bergonio

LATE *Testimony submitted late may not be considered by the Committee for decision making purposes.

**Newton J. Chu**

**120 Pauahi St. #312**

**Hilo, HI 96720**

**February 13, 2024**

HB 1931 - RELATING TO THE UNIVERSITY OF HAWAII

Chair Perruso, Vice Chair Kapela and Members of the Committee

It is a pleasure to provide testimony in **strong support** of HB 1931 which is intended to enable a workforce development program under the new UH Space Sciences Initiative (SSI) as a long term investment in our keiki and communities.

Both of my children attended public schools in Hilo and then studied Science and Astronomy on the mainland. I know they both would like to return to Hawaii island to live and work if the right opportunities existed. They also had classmates study engineering in Honolulu and the mainland and they would be potential employees of such a development in Hilo. The proposed building for The Space Science Initiative (SSI) at the Institute for Astronomy (IfA) would be a great step in the right direction.

I understand that detailed planning is underway between the UH Hilo College of Natural and Health Sciences and UH Mānoa College of Engineering to include engineering classes/curricula at UH Hilo for future engineering students. Discussions are also underway to provide overall administrative support for SSI within UH and advanced laboratory equipment to support SSI is being procured. Even with all of this activity, there remains an essential SSI component that needs to be sponsored and launched – a dedicated workforce development program designed to engage local schools, engineering/STEM firms, teachers, community organizations, etc. and establish a bridge between students and STEM jobs via SSI. That is the core intent of HB 1931. It is essential that we take an integrated K-career approach, partnering with schools while providing unique engineering internships and learning opportunities, all leading to rewarding STEM careers that diversify the State's economy and help keep our students in Hawai'i after they graduate. SSI is designed to leverage off existing investments including astronomy, aerospace, and STEM outreach programs, while augmenting and "rewiring" programs and resources within UH to serve as the platform for all of this activity.

Parents of local students like myself are thankful for the investments already made in SSI and committed to ensuring all of the effort and resources at work lead to long-term benefits for our local students and communities. We need to advance SSI on all fronts in parallel because designing each aspect of SSI affects the whole program, and it is most efficient to build-out all core SSI elements and infrastructure together to optimize the entire system SSI represents.

Thank you for the opportunity to provide testimony in support of this bill.

Sincerely,

*Newton J. Chu*

LATE *Testimony submitted late may not be considered by the Committee for decision making purposes.

**HB-1931**
Submitted on: 2/13/2024 4:44:24 PM
Testimony for HET on 2/14/2024 2:00:00 PM

| Submitted By | Organization | Testifier Position | Testify |
|---|---|---|---|
| Mike Golojuch, Sr. | Individual | Support | Written Testimony Only |

Comments:

I support HB1931 for the University of Hawai'i Institute for Astronomy's Space Sciences Workforce Development Program, Maunakea Scholars Program, and Akamai Internship Program. We need to maintain a strong Astronomy Program in Hawai'i. Please pass this bill.

Mike Golojuch, Sr.

LATE *Testimony submitted late may not be considered by the Committee for decision making purposes.

**Vaughn G. T. Cook**
**120 Pauahi St. #312**
**Hilo, HI 96720**
**February 13, 2024**

HB 1931 - RELATING TO THE UNIVERSITY OF HAWAII

Chair Perruso, Vice Chair Kapela and Members of the Committee

It is a pleasure to provide testimony in **strong support** of HB 1931 which is intended to enable a workforce development program under the new UH Space Sciences Initiative (SSI) as a long term investment in our keiki and communities.

I am the proud father of 3 girls who are all products of our local public school system (Waiakea High School – Go Warriors!). All three were interested in STEM fields. Two of them were actively involved with robotics teams (age group and high school) and the third is researching the CRISPR technology developed by local Hilo High graduate Jennifer Doudna (who won the Nobel Prize for this research) for a high school national day of history project. She hopes to pursue a career in science and may one day be a researcher or doctor. Many of their classmates and friends are pursuing studies in STEM fields I science and engineering and would welcome further development of research opportunity here at home on Hawaii Island. They and their friends would be potential employees of such a development in Hilo. The proposed building for The Space Science Initiative (SSI) at the Institute for Astronomy (IfA) would be a great step in the right direction.

I understand that detailed planning is underway between the UH Hilo College of Natural and Health Sciences and UH Mānoa College of Engineering to include engineering classes/curricula at UH Hilo for future engineering students. Discussions are also underway to provide overall administrative support for SSI within UH and advanced laboratory equipment to support SSI is being procured. Even with all of this activity, there remains an essential SSI component that needs to be sponsored and launched – a dedicated workforce development program designed to engage local schools, engineering/STEM firms, teachers, community organizations, etc. and establish a bridge between students and STEM jobs via SSI. That is the core intent of HB 1931. It is essential that we take an integrated K-career approach, partnering with schools while providing unique engineering internships and learning opportunities, all leading to rewarding STEM careers that diversify the State's economy and help keep our students in Hawai‘i after they graduate. SSI is designed to leverage off existing investments including astronomy, aerospace, and STEM outreach programs, while augmenting and "rewiring" programs and resources within UH to serve as the platform for all of this activity.

Parents of local students like myself are thankful for the investments already made in SSI and committed to ensuring all of the effort and resources at work lead to long-term benefits for our local students and communities. We need to advance SSI on all fronts in parallel because designing each aspect of SSI affects the whole program, and it is most efficient to build-out all core SSI elements and infrastructure together to optimize the entire system SSI represents.

Thank you for the opportunity to provide testimony in support of this bill.

Very Truly Yours,

Vaughn G. T. Cook

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LATE *Testimony submitted late may not be considered by the Committee for decision making purposes.

**HB-1931**
Submitted on: 2/13/2024 5:32:42 PM
Testimony for HET on 2/14/2024 2:00:00 PM

| Submitted By | Organization | Testifier Position | Testify |
|---|---|---|---|
| Steven Thomas | Individual | Oppose | Written Testimony Only |

Comments:

Aloha Chair Perruso, Vice Chair Kapela, distinguished committee members,

My name is Steven Thomas. For the past 5 years, I have stood against all types projects that I believed were either environmentally detrimental, culturally sacrilegious, or a combination of the two. My involvement in the 2019 stand against the Thirty Meter Telescope on Mauna Kea solidified my stance against all telescopes on Mauna Kea. As such, I cannot support any bill that proposes to use my tax dollars for the furtherance of astronomy on Mauna Kea. Whether it be through the Workforce Development Program, the Scholarship Program, or the Internship Program, any money that supports continued work on our sacred Mauna is, funding the wrong thing. I support only one use for telescopes. That would be the use that allows for the protection of the Earth from impacts of near Earth objects. I understand that there exist two telescopes already in space .. I believe them to be sufficient. The quest for knowledge cannot come at the expense of the health of our own planet.

Mahalo

LATE *Testimony submitted late may not be considered by the Committee for decision making purposes.

**HB-1931**
Submitted on: 2/13/2024 7:15:49 PM
Testimony for HET on 2/14/2024 2:00:00 PM

| Submitted By | Organization | Testifier Position | Testify |
|---|---|---|---|
| Kori Oros | Individual | Support | Written Testimony Only |

Comments:

Aloha,

I speak in support. These avenues for students to study astromony offer opportunity to our Hawai'i Youth. I do not support expanding any facilities, however I do support funding programs to help the youth discover and learn about space.

Kori Oros

LATE *Testimony submitted late may not be considered by the Committee for decision making purposes.

**HB-1931**
Submitted on: 2/14/2024 12:30:55 AM
Testimony for HET on 2/14/2024 2:00:00 PM

| Submitted By | Organization | Testifier Position | Testify |
|---|---|---|---|
| Laura Safranski | Individual | Oppose | Written Testimony Only |

Comments:

Strongly oppose. I oppose all telescopes on Maunakea

these telescopes will become technologically obsolete. Looking back on actions taken, or lack or action, prove that concern for the environment is down right disrespectful to the people and the land itself.
The risks outweigh spending billions in funding research $ better spent on humanity and basic human needs f

LATE *Testimony submitted late may not be considered by the Committee for decision making purposes.

**HB-1931**
Submitted on: 2/14/2024 8:32:02 AM
Testimony for HET on 2/14/2024 2:00:00 PM

| Submitted By | Organization | Testifier Position | Testify |
|---|---|---|---|
| Rhonda | Individual | Oppose | Written Testimony Only |

Comments:

I oppose!