

PROMOTING SCIENCE EDUCATION AND RESEARCH IN HAWAI'I AND THE PACIFIC RIM

HAWAI'I ACADEMY OF SCIENCE

ANNUAL REPORT 2010



2010 has been a tumultuous but triumphant year for the Hawai'i Academy of Science.

Our flagship activity, the 2010 State Science Fair, was the largest and best ever. Following a suggestion from Senator Dan Inouye we relocated the fair from the Blaisdell Center to the Hawai'i Convention Center, a move that turned out to be highly popular with students, judges and visitors.



ALOHA

A few weeks after the fair we escorted 23 prize-winning high school students (19 of them female!) to the Intel International Science and Engineering Fair in San Jose, where they shared their ideas with scientists and fellow students from 50 countries and witnessed the cutting edge research being done at Lawrence Livermore Labs and NASA Ames Research Center.

The Pacific Symposium for Science and Sustainability (PS3) continues to reach out to the children of Hawai'i and the Pacific islands, offering an exciting opportunity for scientific experiences. Funded by the Research Offices of the US Army, Navy, and Air Force, PS3 is a chaperoned weekend of professional-style science presentations, social events and banquets. Students from all over the Hawaiian islands have a chance to interact with their peers from Micronesia and American Samoa as well.

Our Science Cafe completed its second full season of nutrient-rich evening discussions; we will continue the series again this year.

But perhaps most dramatic was the turnaround in our financial situation. At the start of the year, as a result of a major decrease in state funding, the future of both the Hawai'i Academy of Science (HAS) and the Science Fair were in serious doubt. Fortunately HAS board member (and 1982 state science fair winner) Neal Atebara leapt into action and rallied an HAS committee. Together, they raised over \$150,000 in private donations in a few months time. The Academy's education programs for the immediate future are stable, but Neal and the fundraising committee are currently working hard to strengthen our financial stability over the longer term. Dr. Irvin King and Dr. Celia Smith have also spent countless hours working with various state and federal agencies to obtain grants that can further our activities as well. This year the Academy was extremely fortunate in persuading past board member and former Bishop Museum planetarium director Carolyn Kaichi to accept the position of Education Program Manager and Science Fair Director. She and her colleagues Jon Asato and Sara Tamayose, maintain our tiny campus office as an island of sanity in a forest of bureaucracy. We would be lost without them.

Where will the Academy go from here? That will be for the incoming president, Bruce Anderson, and his board to determine, but it is worth noting that for the first 30 years of its existence the Academy was a learned academic society, which showed very little interest in school or public education.

It took the launch of Sputnik 1 in 1957 to convince the American people that they were in danger of losing their intellectual leadership in the world, and it is probably no coincidence that Hawai'i's first State Science Fair took place shortly thereafter.

The present crisis in domestic science education is as real it was in the 1950s, except today the threats to America include the growing technical capacities of China and India in conjunction with the apathy and even hostility to scientific ideas by many in the U.S.A.

We have a lot to do!
Gareth Wynn-Williams
Outgoing President
Hawai'i Academy of Science

This year marks the 85th anniversary of the Hawai'i Academy of Science, and I'm proud to be taking the reins of such a venerable organization. Our mission continues to be the promotion of science education and research in Hawai'i and the Pacific Region.

The Academy sponsors two of the oldest and largest science education programs in Hawai'i, the Hawai'i State Science and Engineering Fair and the Pacific Symposium for Science and Sustainability. Over the years, thousands of Hawai'i's youth have found an aptitude and passion for science and engineering as a result of their participation in these events. As a direct result of their experiences, they have chosen and successfully pursued careers in medicine, scientific research, engineering and many other scientific and technical fields. This has enabled many to stay in Hawai'i and raise their families here.

Too often policy makers and those in our public school system focus their attention and resources on supporting underachievers and those with special needs at the expense of our best and brightest. The State Science Fair and the Pacific Symposium for Science and Sustainability often offer the only opportunity for those "best and brightest" students to recognize their potential and to strive for excellence. This is what Hawai'i and our Nation needs to compete in the world today. We need to be the best at whatever we do. In science competitions, everyone wins!

The last year has been, perhaps, the most challenging and defining in the Academy's 85 year history from a financial perspective. There were times when the Board despaired of ever holding future Science Fairs. However, thanks to Dr. Neal Atebara's fundraising leadership, the steady hand of our President, Dr. Gareth Wynn-Williams, and the steadfast support of many other Board members, we are well-positioned to make the Science Fair sustainable for decades to come. Generous donations from numerous supporters have made it possible to hold the Science Fair in 2011 despite the loss of State funding. Looking forward our goal is to make the Science Fair sustainable without State or Federal support. As President, I will do my best to build on the momentum you have all created.

I also look forward to working with our HAS Board members and dedicated staff, teachers, elected officials and others to further expand opportunities for science education in Hawai'i. I welcome any help and advice you can give me as we move forward along the path of excellence.

Mahalo for your trust in me and for your support.
Bruce Anderson
Incoming President
Hawai'i Academy of Science



HEADING INTO THE FUTURE



HAWAI‘I ACADEMY OF SCIENCE

OUR MISSION

The Hawai‘i Academy of Science (HAS) is a private, non-profit organization founded in 1925. The mission of the HAS is to promote scientific research and education in Hawai‘i and the Pacific Region. The Academy is particularly interested in linking organizations with research, educational, and business interests related to science and technology.

BOARD OFFICERS

- President** Gareth Wynn-Williams, Professor
Institute for Astronomy
- President-Elect** Bruce S. Anderson
Director of Health & Science Programs
Hawai‘i Pacific University
- Secretary** Barbara Bruno
Education Director
Oceanography, C-MORE
- Treasurer** John Scholfield
Manager
AECOM, Inc.

COUNCILMEMBERS

Councilors

- Neal Atebara
Retina Center of Hawaii
- Michael Dohm, Asst. Professor
Dept. of Biology - Chaminade University
- Jay Fidell
Bendet Fidell Sakai & Lee
- John Hawkins, ret.
Dept. of Education

Councilors

- Kerry Kakazu
Cancer Research Center of Hawai‘i
- Darren T. Kimura, CEO
Sopogy
- Amanda Lowrey
Hawai‘i Dept. of Health
- Ken Miller, USA Liaison
GOTO, Inc.

Councilors-at-large

- Eric H. DeCarlo, Professor
Dept. of Oceanography - UH Manoa
- Garrett Ito, Assc. Professor
Geology & Geophysics - UH Manoa
- Celia Smith, Professor
Botany - UH Manoa

COUNCILMEMBERS (CONTINUED)

Ex-Officio

Education Committee Chair

Irvin L. King, Professor
College of Education – UH Manoa

Director, Pacific Symposium for Science & Sustainability

Bernard J. Kilonsky, Research Associate
Dept. of Oceanography - UH Manoa

Director, Hawai'i State Science & Engineering Fair

Carolyn Kaichi

HAS Staff

Carolyn Kaichi
Hawai'i Academy of Science
Program Manager & co-Principal Investigator

Jon Asato
Program Management Associate

Sara Tamayose
Program Support

MEMBERSHIP

Vernadeth Alarcon
Franklin Allaire
Bruce Anderson
Garrett Apuzen-Ito
Katherine Aratani
Bradley Ashburn
Neal Atebara
Fay Atebara
Matthew Atebara
Neal Atebara Jr.
Karin Bjorkman
Lani Blissard
Jerry Brennan
Edwin Cadman
Robert Campbell
James Campbell
Vickie Caraway
Gerald Carr
Healani Chang
Virginia B. Cleary
Patricia A. Cooper
Elizabeth Corbin
John M. Corboy
Evelyn Cox
Richard H. Cox
Thomas C. Craven
Peter Crouch
David H. Crowell
Bebi Z.K. Davis
Harry B. Davis IV
Eric DeCarlo
Edna Demanche
Michael DeWeert
Tep Dobry
Eric Firing
June Firing
Peter A. Follett

Susan Francisco Emanuel
Neil Frazer
Alan Friedlander
Michael Garcia
Leon Geschwind
Cindy Goldstein
Gail Grabowsky
Jonathan Gradie, Ph.D.
E. Gordon Grau
Fred Gross
Michael Hadfield
Teri Hamasaki
Frederick Harris
Bernard Ray Hawke
John Hawkins
Cyndi Hewitt
Arnold M. Hori
Francis G. Howarth
Robert L. Hubbard
Betsy Hubbard
Cynthia L. Hunter
Curtis S. Ikehara
Gail Ishimoto
Lynn Iwamoto
Brenda Jensen
Zackary Johnson
Shaun Johnston
Michael Jones
Sean Jungbluth
Lori E. Kamemoto
David M. Karl
Marion Kelly
Bernard Kilonsky
Nancy Kilonsky
Irvin King
Charles Kinoshita
Elizabeth Kumabe-Maynard

Will Kyselka
Henry Lau
Edward Laws
Judy Lemus
Carrie Leonard
Amanda Lowrey
Beverly Lynn-Wilson
Fred T. Mackenzie
Lorenz Magaard
Jacqueline Maly
Yusuke Marikawa
John W. Marlowe
Sherwood Maynard
Elizabeth Maynard
Gary M. McMurtry
Chris Measures
Priscilla Millen
Eric Miller
Jenna Minami
Ray Ming
Karl A. Minke
Robert Moffitt
Amanegentoku Morigami
Nathalie Morigami
Tina Marie Mueller
Daryl Mukai
Justus A. Muller
Dayle & Ross Murakami
Fred Nakaguma
Charles Neal, Jr.
Stephen L. Olsen
Benton Pang
Gail Peiterson
Donald A. Person
John C. Ramos
Arthur Reed
Guinn Roberts

Crichton Roberts
Barbara Rogers
Mark Rognstad
Catherine Schempp
John Scholfield
Thomas Schroeder
Karen E. Selph
Richard D. Sheffer
Toufiq Siddiqi
John J. Silva
Brent S. Sipes
Celia Smith
John Southworth
David C. Spafford
Frank Stanton
Walter R. Steiger
Jae Sung
Sabina F. Swift
Daniel Y. Tada
Marjorie Tanoue
Shiyana Thenabadu
Jan Auyong Titgen
Francis-Dean Uchima
Catherine Uyehara
Lorena Wada
Richard Wainscoat
Amy Watanabe
Susie Wendland-Gardner
Stephanie Whalen
Jonathan Whitney
Roy H. Wilkens
David/Beverly Wilson
Joshua Wise
Alvin J.K. Won
Gareth Wynn-Williams
Klaus Wyrтки
Marian Y.Y. Yong



CELEBRATING ACHIEVEMENT

STUDENTS, PARENTS AND TEACHERS CHEER AT THE 53RD HAWAII STATE SCIENCE AND ENGINEERING FAIR AWARDS CEREMONY HELD AT THE HAWAII CONVENTION CENTER.



OUR PROJECTS

Reports on Programs
Pages 6-7

Hawai'i State Science & Engineering Fair
Summaries of HSSEF & ISEF
Pages 8-11
Science Fair Profiles
Pages 12-17

Pacific Symposium for Science and Sustainability
Page 18

Science Café
Page 19

Sen. Daniel Inouye, Dr. Bruce Anderson and Dr. Isabella Abbott kick-off the Opening Ceremonies for the 53rd Hawai'i State Science and Engineering Fair, April 5, 2010.

The 53rd science fair season began with uncertainties and evolved into a synergistic effort involving members of the Hawai'i Academy of Science (HAS) and Hawai'i's community. In an atmosphere of economic uncertainty and caution, the 2008-09 Hawai'i State Legislature did not appropriate funds toward the science and engineering fair as they have since 1990. For the first time in almost a decade the HAS education programs were in jeopardy, risking the loss of the Hawai'i State Science and Engineering Fair (a program the organization has managed since 1958), as well as the Academy's staff.

Fortunately, the HAS Executive Board rallied into action. Fundraising committee chairman and former state science fair alumni Dr. Neal Atebara assembled a group of fellow board members including Dr. Irvin King, Dr. Gareth Wynn-Williams, Dr. Bruce Anderson, Dr. Celia Smith, Dr. Kerry Kakazu and entrepreneur Darren Kimura. Together the team tackled fundraising on three fronts: government, private corporations and individuals. While the process was challenging, the fundraising committee raised over \$150,000 since the beginning of 2010 and is still actively pursuing donations.

The Academy is also very fortunate to have the support of U.S. Senator Daniel Inouye, who has attended the state fair for the past two years. The Senator recognized the value of our organization and the science fair program and took an interest in our science education programs. He guided the Academy staff toward potential resources and his office has been extremely helpful in lending their expertise to assist in those efforts. We are deeply grateful for the Senator's acknowledgment of our organization's role enhancing science education in our state.



Donations also came in the form of grants that the Academy applied for, of which several major awards have been received. The McNerny Foundation and NOAA's National Marine Sanctuary Foundation have been very supportive of our efforts for many years, and currently several additional grants are being pursued through state, federal and private agencies. Other recent grant awards include support from the Fisheries Pacific Islands Region Program.

In addition, private industries have donated funds that benefit the students directly in the form of awards (see HSSEF report on page 9). A consortium of companies representing Honolulu Rail for Growth was so impressed by the first place winners from the Leeward District Fair that they funded the winning team of three Waipahu High girls to attend the International Science and Engineering Fair (ISEF) in San Jose, CA in May. This assistance released funds that allowed additional representatives from the Leeward Oahu district to attend ISEF, enhancing opportunities for this underrepresented region to experience the international competition. Other major awards included scholarships from Hawai'i Pacific University and the University of Hawai'i, and travel awards for both teachers and students from Chevron, BAE Systems, NOAA, Hawaiian Electric Co. and Syngenta.

The Academy considers teacher awards as important as student awards. There is a definite correlation between the number and quality of projects that are entered from a school or district and a specific teacher or teachers that inspire the students. The Academy seeks teachers who are interested and motivated to go the extra mile, assisting or mentoring their students so they can take a science fair project all the way to the state level, and potentially beyond. Teacher workshops are offered annually in all districts and information is available by phone, email or our website (www.hawaii.edu/acadsci) throughout the year.

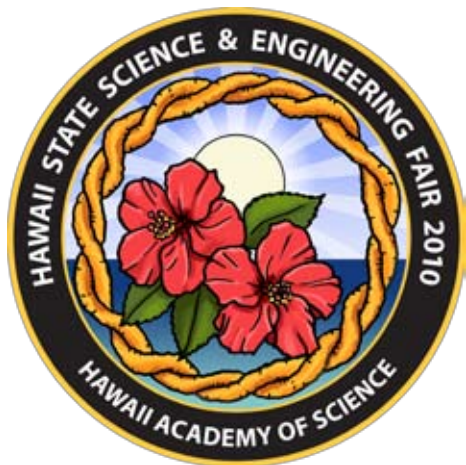
The momentum of the Academy of Science appears to be steady, fueled by an energetic Executive Board and additional staff in the Academy Education Office. Looking toward the 2010/11 school year, we expect that we will be able to continue offering quality programs to augment science literacy and education in Hawai'i.



Gino Antonello, V.P. for Sumitomo Corp. of America with Waipahu H.S. students Ilora Mendoza, Rizzaly Augustin and Michelle Tagapuen. The three seniors won a trip to ISEF from the Honolulu Rail for Growth Consortium with their project, *Identifying the Effects of Locally Grown Plants on Mealworm Mortality and Weight*.



HAWAI‘I STATE SCIENCE & ENGINEERING FAIR



Top: HSSEF 2010 Logo Design

Bottom: First Place Chevron Poster Contest winning entry from Caytlin Yoshioka, Mililani Middle School. The theme for 2010 was Environmental Management. This design will decorate the front cover of the 2011 HSSEF Program Booklet.

The 53rd Hawai‘i Science and Engineering Fair (HSSEF) was officially held between April 5–7 at the Hawai‘i Convention Center, however preparations began long before the spring. Fund raising was challenging in a tough economy but there were many on the Academy board that volunteered much of their time and energy to keep the program from decline.

There were many other changes that distinguished the 2010 HSSEF from previous years: a new venue, electronic and paperless communication, and support from one of our state’s most powerful leaders that helped take the event to a level of excellence that we hope will continue through the years.

Fundamentally, the state science fair could not exist without the support of the teachers. In most cases, projects begin at the classroom level with an assignment by a motivated teacher who is willing to guide, mentor and sometimes even subsidize their students’ experiments. The students then go on to compete within the school or class, moving on to the district level if one exists in their area. There are eight districts in Hawai‘i – Kauai, Leeward, Windward, East and West Hawai‘i, Honolulu, Central Oahu and Maui County.

In addition to the state fair, five of Hawai‘i’s districts are affiliated with the Society for Science and the Public (SSP). The affiliated status allows the districts to send their top winners directly to the International Science and Engineering Fair (ISEF) without having to qualify at the state, although the winners participate at the state level to gain additional recognition and experience. Central Oahu, West Hawai‘i and Honolulu District do not have district fairs but select their projects to go directly to the state fair.

This year, about 600 students from grades 6–12 entered the state fair, more than any other year. There were 441 projects from 74 public and private schools (including home school) from around the islands. In every case, students and projects have to be coordinated and transported to and from the event and chaperoned accordingly. For rural and neighbor island participants, this can be both expensive and logistically challenging. The Academy assists districts with those travel costs as much as possible, including funds to hold their local district fairs. Because of the shortage of funding this past year, the Academy offered additional assistance by identifying sponsors to donate awards or services to the districts.

One of the most noticeable changes this year came with the new venue, the Hawai‘i Convention Center. With the support of the DOE and Senator Daniel Inouye’s office, the Academy secured the upscale site for the first time. Aside from the enhanced facilities, the Convention Center offered a larger area to accommodate the science projects, DOE’s Career and Technical Education (CTE) Fair, and staging area for the awards ceremony.

Over 200 professionals in the science, engineering, business, and education fields volunteered to serve as judges at the state fair, with over a 100 volunteers in the community assisting in other areas of the fair. Approximately 480 prizes were awarded, from ribbons to expense-paid trips. Four students were chosen to represent the state at ISEF, so in addition to the students awarded directly from their affiliated districts, this brought the Hawai‘i delegation to San Jose up to 23 (17 girls and four boys, see list on page 10). In addition, two teacher/chaperones were awarded expenses to ISEF in recognition of their achievement in science education.

National Ignition Facility



Lawrence Livermore
National Laboratory

Hawaii ISEF Delegation
May 10, 2010



NIF
Bringing Star Power to Earth
NIF is the world's largest and highest-energy laser system. Its goal is to ignite a self-sustaining nuclear fusion reaction and produce net energy gain — the same fusion energy process that makes the stars shine and provides the life-giving energy of the sun. ■

NIF-0510-18939

THE 2010 HAWAII ISEF DELEGATION

Hawaii State Science & Engineering Fair:

1st Place: Kang Ying Liu
2nd Place: Kelsi Watanabe
Team: Sarah Tamashiro
& Lindsay Fujimoto

St. Andrew's Priory
Mililani High School
St. Andrew's Priory

Hawaii District Science & Engineering Fair:

1st Place: Nolan Kamitaki
2nd Place: Mali'o Kodis
Team: Megan Kurohara
& Hannah Rojascki

Waiakea High School
Waiakea High School
Hilo High School

Kauai Regional Science & Engineering Fair:

1st Place: Isaaca Hoglen
2nd Place: Megan Walsh
Team: Ashley Bonilla,
Alyssa Braun
& Meghan Fujimoto

Kauai High School
Kauai High School
Kauai High School

Leeward Science & Engineering Fair:

1st Place: Genardine Arizala
Team: Ilora Mendoza
Rizzaly Agustin
& Michelle Tagapuen

Waipahu High School
Waipahu High School

Maui School's Science & Engineering Fair:

Team: Michael Flynn
& Taylor Nakamura

Maui High School

H.A.I.S. District Fair:

1st Place: Travis Le
2nd Place: Amelia Harvey
Team: Noelle Owen
& Diana Cabral

Punahou School
Kamehameha School
St. Andrew's Priory

Additional delegation (teachers, fair directors and coaches):

Teacher: Michael Grech
Teacher: Nel Venzon*
Teacher: Steven Zeiher
Teacher: Kevin Johnson
Teacher: James Cox
Director: Michael Sana*
Director: Dr. Lawrence Mordan
Director: Barbara Baker
Director: Carolyn Kaichi
HAS Education Committee:
Dr. Gareth Wynn-Williams, served as an ISEF Judge

St. Andrew's Priory
Mililani High School
Waiakea Middle School
Kauai High/Int. School
Kapaa High/Int. School
Leeward District Fair
HAIS District Fair
Kauai District Fair
Hawaii State Fair Director

*teacher awards

The Intel International Science and Engineering Fair (ISEF) was held in San Jose, CA this spring. Over 1,600 high school students from 59 countries, regions and territories competed for over \$4 million in awards and prizes. The Hawai'i Academy of Science was responsible for organizing and guiding the Hawai'i state delegation of 23 students, their chaperones, teachers and supportive parents over the seven days.

Competition is intense and the schedule is hectic during the days leading up to the judging and awards, but the Academy staff tries to make the experience as well-rounded as possible for the students. Side tours to Lawrence Livermore National Laboratory, NASA's AMES Research Center and the California Academy of Science Center were added to the week's events, as well as shopping in downtown San Francisco and a Giant's ballgame at AT&T Park!

Hawai'i did extremely well this year, with six students placing in the Grand Awards, including Best of Category and First Place awards by Nolan Kamitaki of Waiakea High School in Hilo. Nolan capped off his illustrious 4-year science fair career by placing first in his category of Cellular and Molecular Biology, while his classmate Mali'o Kodis, placed forth in the Grand Award category of Plant Sciences. The full list of awards are as follows:

BEST OF CATEGORY FIRST PLACE - Cellular and Molecular Biology
Intel ISEF Best of Category Award of \$5,000, PLUS \$1,000 grant awarded to school and the affiliated district fair.

Nolan Mint Kiyoshi Kamitaki, 17, Waiakea High School, Hilo, Hawai'i
Gene Dosage and Expression in Human Lymphoblastoid Cell Lines

BEST OF CATEGORY FORTH PLACE – Plant Science

Fourth Award of \$500

Mali'o Wanda Kodis, 18, Waiakea High School, Hilo, Hawai'i
Diversity of Foliar Fungal Endophytes in Wild and Cultured *Metrosideros polymorpha* Inferred from Environmental PCR and ITS Sequence Data

TEAM PROJECTS

Second Award of \$1,500

Megan M. Kurohara, 16, Hilo High School, Hilo, Hawai'i
Hannah Rojas, 16, Hilo High School, Hilo, Hawai'i
A New Spin on Green Energy: Increasing Hydrogen Evolution in a Spirulina Derived Photobiological System

TEAM PROJECTS FORTH PLACE

Fourth Award of \$500

Taylor Tsuyoshi Shong Wong Nakamura, 16, Maui High School, Kahului, Hawai'i
Michael Owen Flynn, 17, Maui High School, Kahului, Hawai'i
Muon Detection at Elevation

SPECIAL AWARDS:

AMERICAN STATISTICAL ASSOCIATION

First Award of \$1,000

Nolan Mint Kiyoshi Kamitaki, 17, Waiakea High School, Hilo, Hawai'i

European Organization for Nuclear Research-CERN

All expense paid trip to tour CERN, the European Organization for Nuclear Research, the world's leading laboratory for particle physics in Geneva, Switzerland.

Michael Owen Flynn, 17, Maui High School, Kahului, Hawai'i

The value of participating in the science fair at any level is clear. For the younger student doing a science fair project teaches critical thinking, teamwork and basic science principals. For the older student the state science fair offers many scholarship, travel and career opportunities that might not otherwise be possible. In all cases, participating in the science fair and progressing to the next levels rewards students by giving them a sense of accomplishment and pride.

FROM HSSEF TO THE INTERNATIONAL SCIENCE & ENGINEERING FAIR



The San Francisco Giants played the Houston Astros at AT&T Park. Tickets were generously donated to the Hawai'i ISEF delegation by Duane Kurisu, part-owner of the Giants.

SCIENCE FAIR PROFILES

THE HAWAII ACADEMY OF SCIENCE SUPPORTS THE EFFORTS OF STUDENTS AND TEACHERS THROUGHOUT THE STATE. HERE IS A CLOSER LOOK AT SOME OF THE OUTSTANDING TALENT FROM THIS YEAR'S COMPETITIONS.





NOLAN KAMITAKI: THE CHROMOSOME KID

While classmates enjoyed days of sand and surf between their junior and senior year, Waiakea High School student Nolan Kamitaki hopped a plane for Harvard Medical School.

At a summer research program hosted by MIT, Nolan worked alongside a mentor tackling the mysteries of human genetics.

His research sought to develop a “master list” of human genes found inside and vulnerable to a recently discovered genetic mutation — something of a molecular game of hide-and-seek.

To date, Nolan has identified sixteen such human genes, many of which are implicated in the development of cancer and mental disorders.

One result of his work: “Gene Dosage and Expression in Human Lymphoblastoid Cell Lines,” won second prize in the senior research category at the 2010 Hawai‘i State Science and Engineering Fair and Best of Category Award — the top honor — at Intel’s International Science and Engineering Fair (ISEF) in San Jose, Calif., in May.

These awards only capped an impressive raft of Nolan’s achievements: science fair winner since eighth grade, Discovery Channel Young Scientist of the Year (a middle-school national

award), and honored as one of two 2010 Presidential Scholars from Hawai‘i, just to mention a few. And he is one of a small group of high school students who can say they have discussed science with Nobel Prize winners over lunch!

His success highlights how Hawaii’s students are more than capable of competing at an international level.

However satisfying it is to win, Nolan said a greater reward at ISEF was the connection with accomplished students and scientists.

“I had the opportunity to speak with experienced professors and scientists about my work and receive extraordinarily accurate constructive criticism,” he said.

“Many of the students I’ve remained friends with and seen throughout different events over the years,” he said. “ISEF was one of the first experiences where I found a group of peers with similar interests and life goals.”

Hooked on math and science at an early age by a science teacher that “forced” him to do a science project, Nolan began tracking the path of the H5N1 flu virus (once headlined the “killer bug”) in middle school using a mathematical model.

“This fascinated me because it connected two fields: mathematics/computer science with biology/public health,” he said. “I had never before seen an association.”

Nolan left Hawai‘i in August 2010 to enter Harvard with a view to majoring in cellular and molecular biology ... maybe.

“I don’t plan on setting anything in stone for a while,” he said. “I want to see many different fields of academia, including those outside of science, during my first years at college.”

But wherever life leads he hopes to attain a Ph.D or an M.D. while doing biomedical research.

“Whether it’s in a university lab or corporate environment I want to be doing research I enjoy,” he said.

And he knows it will be rigorous, a curriculum helped perhaps by his talents as a musician.

“Being able to sit down at the piano after a long day and play anything I want to is an infinitely relaxing experience,” he said.

With an overall life goal to “significantly contribute to science,” for this rising star, it’s an ambitious start.



KELSI WATANABE: ENERGY IN ACTION

For Kelsi Watanabe, a junior at Mililani High School, the potential for alternative energy production is sky high.

The idea of airborne windmills floating above the earth to harness energy from high-altitude winds captured her imagination resulting in an intriguing science fair project.

Designed to float high above the earth, these giant balloons transfer wind energy via a tethering cable to a ground sub-station. The energy is then routed to a power grid.

“Airborne turbines are a recent concept; there aren’t that many and most are still in the prototype stage,” said Kelsi who designed and built a demonstration model for her project.

“The advantage over solar power is that there is always wind at some altitude so energy is always being produced even at night.”

A Design of a Tethered, Lighter-than-Air Power Generating Wind Turbine won her an award in the senior research category at the 2010 Hawai‘i State Science and Engineering Fair, and a trip to the International Science and Engineering Fair in San Jose, Calif., in May.

“I learned so much from seeing other people’s projects,” she said. “There were such great ideas and I learned a lot about presentation.

I had many interviews and that really helped with my people skills.”

During her week at ISEF Kelsi and the Hawai‘i delegation toured what is probably the most ambitious alternative energy project in the world: the National Ignition Facility (NIF) at Lawrence Livermore National Laboratory in California.

In a building the size of an airplane hangar, scientists have built the biggest laser system in the world to try and replicate the nuclear processes that generate the sun’s energy.



“I really enjoyed the trip to the NIF,” she said, “To imagine that such a tiny laser could trigger so much power.”

But as impressed as Kelsi was with her ISEF experience, the young engineer made an impression herself at the event. Paul S. Otellini, INTEL’s President and CEO, selected Kelsi as one of the small group of students he personally interviewed about their projects. In addition, Kelsi was also

chosen by the Fox News Network to appear on national television during the week of the fair. Reporter Connell McShane profiled Kelsi and her dirigible turbine in his segment: “Not Your Average Science Fair”.

Kelsi’s trip to ISEF was just part of an exciting summer for travels.

An enthusiastic girl scout, Kelsi represented Hawai‘i as one of eight scouts chosen from across the nation for an Outward Bound adventure in Costa Rica.

The girls spent 10 days rafting, kayaking, hiking and trekking through jungle terrain.

Hosted by Costa Rican families, the team packaged rice and beans as part of a service expedition for delivery to remote villages.

As a junior this academic year, Kelsi plans to refine her airborne turbine project. “I have to figure out how to work with such a heavy cable,” she said.

“I’m also interested in gathering and sharing science information. Seeing all those ideas at ISEF from around the world to try and make a better future ... that gives me hope.”

For this energetic young scientist, the future is taking off.



THE MOCZ FAMILY: SIBLINGS OF SCIENCE

Not every eighth grader can link prehistoric fish fossils with a design for self-propelled underwater vehicles. But Viola Mocz is from a family that thrives on challenge.

Earlier this year Viola won first place in the junior research division at the Hawaii State Science and Engineering Fair for “A Fossil-Fish Model for Robotic Fish: Learning from Evolutionary Hydrodynamics to Design Better Underwater Vehicles.”

Viola’s success comes on the heels of elder siblings Philip and Lucia, familiar names to state and international science fair judges--Mililani High School award winners who are both currently pursuing studies at Harvard.

“From early childhood they were exposed to art, music and sciences,” said their father Gabor Mocz. “The last subject grabbed their attention most.”

Inspired by frequent visits to Gabor’s laboratory — Mocz senior is director of the Pacific Biomedical Research Center’s Greenwood Molecular Biology Core laboratory; their mother Eva is a chemistry teacher — the siblings natural curiosity was fed from a young age but ultimately he says, their passion for science developed in school. They very much think alike “as if they were triplets,” said their father. “All three have a dual mind for math and music.”

At Harvard, Philip is double majoring in mathematics and astrophysics. He spent this past summer at Cambridge University in England doing research in high-energy astrophysics.

Lucia’s major is in computer science and mathematics. Interested in artificial intelligence from an early age, Lucia stayed at Harvard this summer to work on the RoboBees project where the goal is to build a colony of micro-sized robotic bees. Her work on optical flow sensors will allow the “bees” to navigate and avoid obstacles.

Both play violin in the Harvard Mozart Society Orchestra, while Viola, true to her name, plays viola in the Hawaii Youth Symphony.

Such impressive resumes for one family have been boosted, says Gabor, at the Hawaii State Science and Engineering Fair (HSSEF) and International Science and Engineering (ISEF) — new experiences that inspired a deep curiosity in science and the ability to set goals for further studies.

“These events provided the opportunity to do research and learn from scientists and helpful judges, and to meet and interact with other students of similar interests,” he said. “Networking and friendships were formed; many of them are still active at college, laying

down the foundations of collaboration among future scientists and engineers.”

International Science Fairs in Atlanta, Reno and San Jose also enabled Philip and Lucia to travel to the Mainland for the first time. But while dinner table conversation might dwell on the cosmos or the intricacies of optical flows or the efficiency of aquatic life forms, Mocz family life is also about hiking, camping, enjoying the beach and trips to the movies.

And as you might expect from members of the Internet Generation, all three siblings love strategic and role-playing video games. Their dream family vacation is more unusual: “The kids have not been to Hungary yet and they are curious about their ancestry,” said Gabor.

“All three speak Hungarian also, and it would be fun for them to see a country where everyone speaks that language, not just their immediate family.”

But in the meantime, fish fossils are lined up for Viola’s further scientific pursuits.

Imagine a self-propelling underwater vehicle based on the body design of the *Arandaspis prionotolepsis*, an aquatic life form thought to exist 47 million years ago ... now that is cool science indeed.



MICHAEL FLYNN AND TAYLOR NAKAMURA: MAUI'S MUON MONITORS

Many science fair projects require weeks of observation but Michael Flynn and Taylor Nakamura study particles that live only millionths of a second.

“Muon Detection at Elevation” earned the Maui High School juniors fourth place in the team category at the 2010 Intel International Science and Engineering Fair (ISEF) in San Jose, CA this spring.

Muons are formed when cosmic rays traveling from deep space collide with atoms in the atmosphere only to spend their brief lives hurtling towards oblivion.

Using a cosmic ray detector, the team tested the current theory of muon lifetimes by observing how the particles behaved at different elevations ranging from sea level to the summit of Haleakala.

“Being on Maui was an ideal situation, since the astronomy and science facilities are located on the summit of the mountain,” Michael said. “We needed an altitude-to-altitude comparison for our test, and it was very convenient to store our high-elevation detector in one of the facilities on Haleakala.”

Concluding that describing muon decay required a more technical approach than current methods stated, Michael followed

their project with independent research that he and Nakamura will use in an upcoming competition sponsored by Siemens.

As well as taking fourth place at ISEF, Michael also won an expense-paid trip to see the world’s most powerful particle accelerator at the European Organization for Nuclear Research, CERN, near Geneva, Switzerland.

High-energy physics doesn’t get more exciting than at CERN, where scientists working at the Large Hadron Collider are trying to understand the nature of matter.

“CERN was an absolutely incredible experience,” said Michael, who joined eleven students from across the country on a trip to the facility this summer. (Taylor, already committed to a six-week summer engineering internship at the University of Hawai’i, could not make the trip).

“Most of the time was spent with scientists who do research in particle physics, engineering and computer science,” Michael said “... I don’t often get to meet scientists working in the fields I am interested in so it was a real thrill.”

As was the chance to make new friends: “The students who came with me on the trip are all brilliant,” he said. “I still keep in touch with

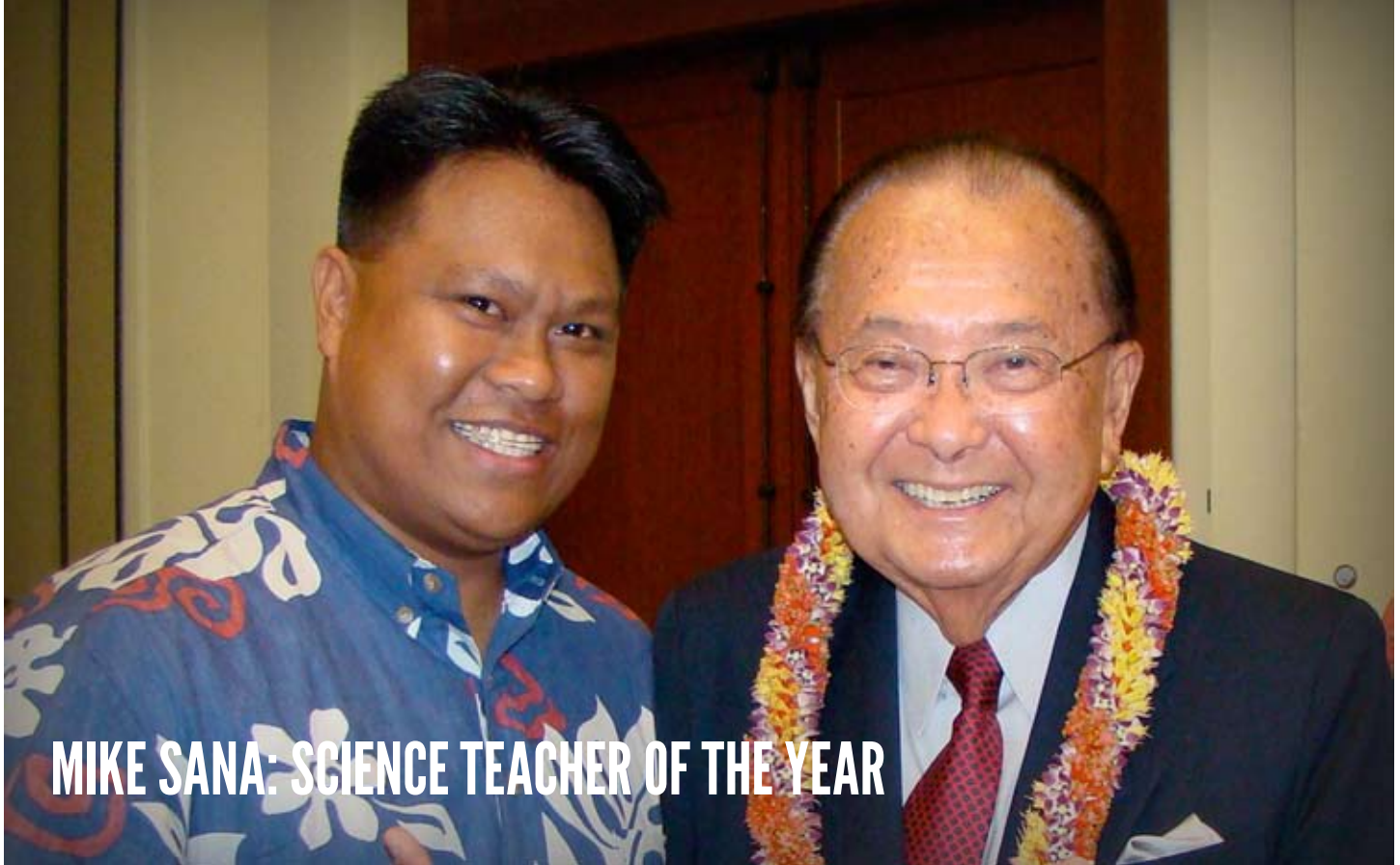
them, and we will definitely be good friends for life.”

Senior year for both students is packed with activities. When they’re not monitoring muons, Nakamura plays soccer, and the trumpet in Maui High School’s marching and symphonic bands. He captains the school’s robotics team (2009 Hawai’i Regional competition winners) and practices martial arts.

Michael is a divisional officer in the school’s Key Club, an organization that serves the community. He plans to present his independent research at the Intel Science Talent Search, an offshoot of ISEF, in 2011.

As they contemplate college applications and career choices — Taylor is leaning toward a major in economics with a possible engineering minor; Flynn wants to pursue courses in chemistry, physics and math at Stanford or MIT. Both attribute their academic interests in part to the science fair experience of being able to chat with prominent scientists and other highly motivated peers.

Muons may last only millionths of a second but their influence on these exciting young scientists will last a lifetime.



MIKE SANA: SCIENCE TEACHER OF THE YEAR

The Lawrence Livermore National Laboratory (LLNL), east of San Francisco, is home to the X-Games of science, bold ideas, advanced technology, high security and award-winning scientists with a vision for the future.

So when Waipahu High School's science teacher Mike Sana heard the 2010 International Science and Engineering Fair (ISEF) competition would be in nearby San Jose, he sprang into action.

Sana had recently completed a three-year summer internship in biotechnology at LLNL as part of a Department of Energy program inviting high school science teachers to pursue cutting edge research with a scientist at the facility.

"I jumped on the phone to my LLNL mentor and program director to see if we could arrange a tour of the Livermore labs," Sana said. "I knew the students representing Hawai'i at the ISEF competition would benefit by seeing where a career in science could lead."

It turned out the visit led to the very edge of science. At the LLNL's National Ignition Facility, the Hawai'i group saw the biggest laser system in the world being readied to replicate the nuclear processes that generate energy in the sun.

For students and adults the visit was thrilling, and an insight into the collaborative nature of science.

"We often think of scientists working in a lab by themselves," Sana said, "But this isn't true. Scientists at our National Laboratories work on projects that require diverse backgrounds. You'll find biologists working with computational engineers alongside chemists and physicists."

Critical thinking, collaboration and peer support are considered essential to the strong science curriculum at Waipahu where Sana, who heads the science department, encourages all students to give science a try through robotics, science fair projects or the schools regular science quiz events.

"From the beginning of freshman year all students must take core classes in biology, physics and chemistry, and all freshmen are required to complete a science fair project," he said. "Many students continue science classes throughout high school."

It's a formula that's made Waipahu one of the most successful entrants at both the state science fair and at ISEF.

"Many of our students have great ideas and are tuned in with what is going on in the

world," Sana said. "And I tell them that they are the ones who will be solving the world's problems."

Sana who also coaches high school basketball says success isn't just about academics.

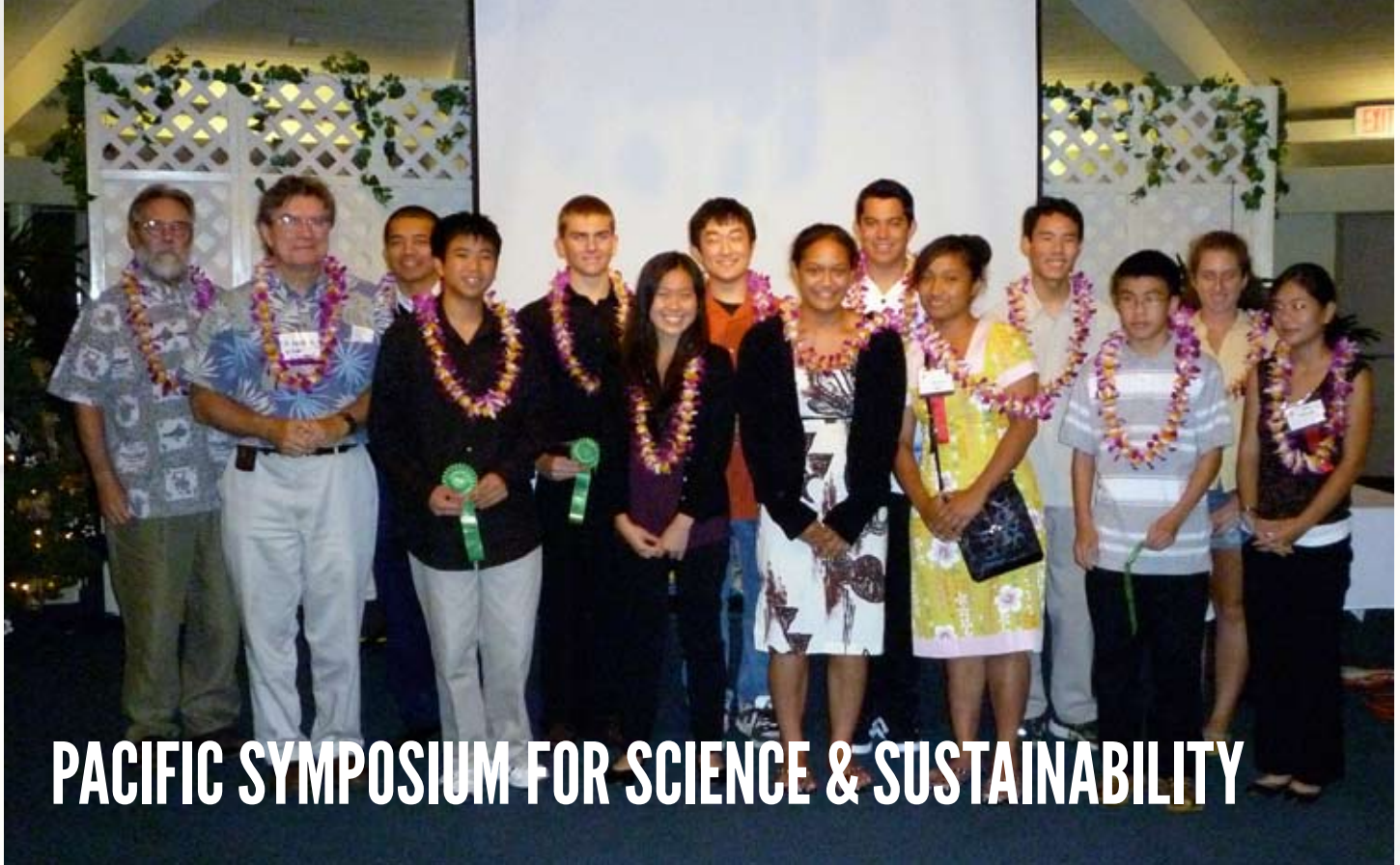
"Having a sense of pride and community is what pulls Waipahu students together when it comes to competitions like science fair," he said.

"What's great about the kids at Waipahu is that they really care about their school and the community and want to make things better not just for themselves but for all and future generations."

Accepting the Hawai'i Academy of Science Teacher of the Year award at the Hawai'i State Science and Engineering Fair Awards Ceremony in April, Sana beamed as Team Waipahu roared and stamped its approval.

Clearly this teacher knows how to ignite enthusiasm.





PACIFIC SYMPOSIUM FOR SCIENCE & SUSTAINABILITY

The Pacific Symposium for Science and Sustainability (PS3) is one of 49 regional Junior Science and Humanities Symposia (JSHS) funded by the Research Offices of the US Army, Navy, and Air Force. The Academy of Applied Science in Concord, New Hampshire, administers the program.

The JSHS program encourages high school students to challenge themselves through experimental research. At the regional and national symposia students learn from each other and from distinguished scientists, engineers, and educators.

At the 2010 Pacific Symposium for Science and Sustainability held at the University of Hawai'i Shidler School of Business in Honolulu, library research papers are accepted in addition to experimental research papers. However, only students conducting experimental research are eligible to be finalists representing Hawai'i at the National JSHS.

Roya Sabri from Kailua-Kona, Hawai'i, was our top regional finalist. As the regional winner she received a \$1,500 scholarship to be used at the college of her choice. She presented her paper at the 48th National JSHS held in Bethesda, Maryland, April 28 - May 2, 2010.

Fa'alolo'i Te'o, from Tafuna High School in American Samoa and Nolan Kamitaki from Waiakea High School on the island of Hawai'i, were the runner-up and the 3rd place regional finalist at the PS3. Fa'alolo'i was the first student from American Samoa to present a paper at the National JSHS, and advanced to the final runoff. As the regional 2nd place finalist, she received a \$1,000 scholarship to be used at the college of her choice. Nolan competed in the poster competition at the Nationals and won the 1st prize. He also received a \$1000 scholarship.

The two other PS3 finalists, Travis Le and Nathaniel Goodale, received expense paid trips to the National JSHS to participate as observers.

All of the students who attended the National JSHS did a fantastic job of representing the state of Hawai'i. Their science projects were on a par with or better than those of many of the top high school science students in the nation.

Bernard J. Kilonsky
Director
Pacific Symposium for Science and Sustainability

SCIENCE CAFÉ

The Science Café is in its third successful season bringing science to the “mature public”. Patterned after the European version called *Café Scientifique* (<http://www.cafescientifique.org/>), our Science Café brings together thought-provoking speakers with good food, drinks and an audience thirsty for lively conversation.

The Café launched the event in January 2009 with the fascinating and trendy topic of forensic science. Dr. Lee Goff, director of the Forensic Science program at Chaminade University and consultant to the popular television series, CSI, was a stimulating speaker that sparked a brisk debate from the overflow crowd. He set the pace for the monthly talks that included speakers from all disciplines of science and technology.

Partners in the Science Café series include the Hawai'i Academy of Science, the American Chemical Society -Hawaii Section and Sigma Xi - University of Hawai'i Manoa Chapter.

Currently Science Cafes are held once a month at a Honolulu restaurant. Participants are encouraged to come early for refreshments and socializing before the speaker begins.



Science Café, April 2010.
Dr. James Campbell talked about the spread of the N1H1 influenza virus in the Pacific region.

2009 HIGHLIGHTS:

January – **Dr. Lee Goff**, Chaminade University: *Forensic Science Stories*

February – **Dr. John Learned**, UH Dept. of Physics: *ET: So Where Is He?*

March - **Dr. Bob Cooney**, Cancer Research Center of HI: *“Extreme” Moderation, Disease Prevention with Nutrition*

April – **Michael Richlen**, Hawai'i Institute of Marine Biology: *Playing Favorites? Perspectives on Marine Mammal Conservation*

May – **Jim Crisafulli**, Office of Aerospace Development, DBEDT: *Stepping Stones to the Stars, Hawaii's Rendezvous with Space*

June – **Dr. Rolf Peter Kudritzki**, UH Institute for Astronomy: *Stars and Humans, Astronomy in Hawaii*

July – August *SUMMER BREAK*

September – **Dr. Mike Mottl**, UH Dept. of Oceanography: *Global Climate Change*

October – **Leon Geschwind**, Bishop Museum: *Climate Change Mythbusters*

November – **Dr. Gareth Wynn-Williams**, UH Institute for Astronomy: *The Antikythera Mechanism*

2010 HIGHLIGHTS:

January – **Dr. Neal Atebara**, Retina Center of Hawaii: *A New Eye on Diabetes*

February – **Dr. Eric Miller**, UH Natural Energy Institute: *Riding the Green Wave-The Oncoming Surge of Renewable Energy Technologies and Jobs in Hawaii's Future*

March – **Dr. Chris Measures**, UH Dept. of Oceanography: *Burying Atmospheric CO₂, Hope or Hype?*

April – **Dr. James Campbell**, Asia-Pacific Center for Security Studies: *Protecting the Pacific from Pandemic Panic*

May – **Gerard Fryer**, NOAA Pacific Tsunami Warning Center: *Tsunami Warning: Lessons Gathered From The Response to the 2010 Chile Tsunami*

June – August *SUMMER BREAK*



EVENT CENTER
www.sjsu.edu/evcent

SEEDING SUSTAINABILITY

THE HAWAII DELEGATION LOOKS TOWARD THE FUTURE AS IT RECOGNIZES THE CLOSING OF THE 2010 INTEL INTERNATIONAL SCIENCE & ENGINEERING FAIR IN SAN JOSE, CALIFORNIA BY SINGING HAWAII PONO'I.



FINANCIAL SUMMARY

This has truly been a miracle year for Academy fundraising. After losing State support for the science fair last year, our future was far from certain. In January, the Academy launched an aggressive campaign to raise funds for the science fair. Thanks to the generosity of hundreds of individuals in the community and local corporations, we raised over \$200,000 in unrestricted funds. This, along with grants from ARRA and NOAA, is enough to not only cover last year's science fair but also ensure we will make it through the upcoming fair as well.

In some ways, this episode in our history was a blessing in disguise. It forced us to be more creative and better organized. It motivated us to forge new relationships with the technology industry and business community. It catalyzed our expanding network of fundraisers. It even fostered our move to the Hawai'i Convention Center, now symbolic of our reinvention of the organization.

But we can't stop there: we must continue to raise the bar for ourselves if the Academy is to remain relevant in the future. The Hawai'i State Science and Engineering Fair provides an unparalleled experience for our kids and imparts in them a deep and lasting benefit. Still, many don't know about the science fair and few have ever heard of the Hawai'i Academy of Science. If we could just communicate our activities to parents, teachers, businesses, and local and state governments, we would be able to rally the kind of support that would allow us to weather any storm.

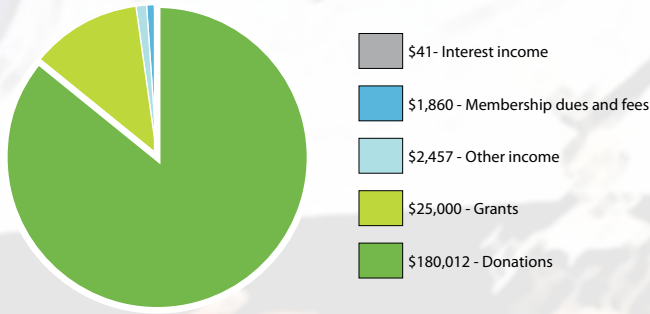
Please take a moment to thank the following individuals for their invaluable fundraising efforts: Mr. Art Ushijima, Mr. Darren Kimura, Dr. Irv King, Dr. Celia Smith, Dr. Kerry Kakazu, Mr. Jay Fidell, Ms. Carolyn Kaichi, Dr. Gareth Wynn-Williams, and Dr. Bruce Anderson.

Mahalo nui loa,
Neal Atebara
Fundraising Chair
Hawai'i Academy of Science

STATEMENT OF ACTIVITY FOR THE FISCAL YEAR ENDING JUNE 30, 2010

(AMOUNTS SHOWN ARE UNAUDITED)

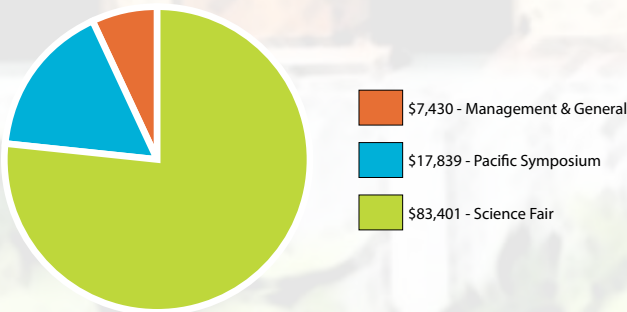
INCOME



FINANCIAL POSITION

ASSETS	
CURRENT ASSETS	
Cash and cash equivalents	\$236,136
Total assets	236,136
LIABILITIES AND NET ASSETS	
CURRENT LIABILITIES	
Credit cards payable	2,838
Total liabilities	2,838
NET ASSETS	
Unrestricted	202,015
Temporarily restricted	31,283
Total net assets	\$233,298
Total liabilities and net assets	\$236,136

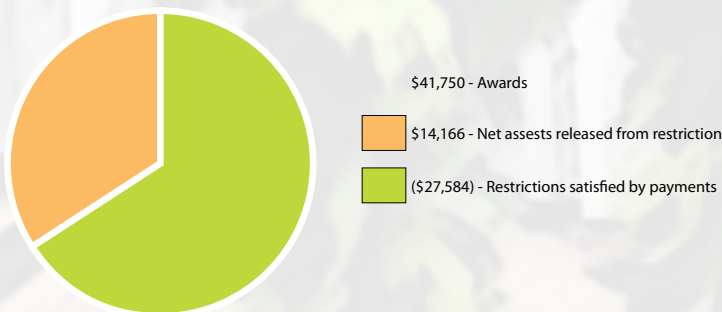
EXPENSES



FUNCTIONAL EXPENSES

	Program Services			Total
	Science Fair	Pacific Symposium	Management & General	
Awards	\$27,584	\$-	\$-	\$27,584
Travel	17,056	10,416	-	27,472
Venue rental	17,734	-	-	17,734
Meals	844	6,740	2,114	9,698
Printing & publications	6,032	274	317	6,623
Miscellaneous	5,757	303	100	6,160
Equipment rental	2,960	-	-	2,960
Parking & gas	1,835	-	-	1,835
Supplies	1,261	100	420	1,781
Insurance	-	-	1,671	1,671
Dues & fees	1,475	-	18	1,493
Postage & shipping	51	-	1,087	1,138
Professional fees	-	-	261	261
Occupancy	-	-	852	852
District support	662	-	-	662
Telephone	-	-	398	398
Bank fees	150	6	192	348
	\$83,401	\$17,839	\$7,430	\$108,670

RESTRICTED NET ASSETS



STATE SCIENCE FAIR SPONSORS

Associate Sponsor

(Sponsorship/Partnership)

College of Education, UH Manoa
Hawai'i State Department of
Education

NOAA of the Pacific National Marine
Sanctuary Foundation

Diamond Sponsor

\$20,000 or more

McInerny Foundation
(\$32,000)

Honolulu Rail for Growth
(\$25,000 total from the following)

Mitsubishi
Sumitomo Corp. of America
Kinkisharyo Int'l, LCC
Thales
Wasa Electrical Services, Inc.

Platinum Sponsor

\$10,000-\$19,999

Bank of Hawaii
First Hawaiian Bank
Ms. Iris Shinseki's Aiea High Jr.
Researchers (Dr. Kerry Kakazu)

Gold Sponsor

\$7,000-\$9,999

The Queen's Medical Center

Silver Sponsor

\$4,000-\$6,999

Dr. Neil and Fay Atebara
Blue Planet Software, Inc.
Chevron USA
Laurence & Muhardini Goldstein
Hawaii Council of Engineering
Societies
Hawaiian Airlines
Hawaiian Electric Company, Inc.
K. Taniguchi Ltd.
Kobayashi Development Group

Bronze Sponsor

\$1,000-\$3,999

American Society for Clinical
Laboratory Science Hawaii
Dr. Bruce Anderson
ASHRAE Hawaii Chapter
Cancer Research Center
Carrier Hawaii
Castle Medical Center
Peter Halford
Darryl Hiyama
Hawai'i Pacific Health
Hawai'i Community Foundation
Hawaii Medical Service Association
Hawaiian Cement
Glenn Ishioka
Kerry Kakazu
Irvin King
The John A. Burns School of Medicine
Chris Measures & Karen Selph
Ken Miller
Monsanto Co.
Lawrence & Carolyn Okinaga
Pioneer Hi-Bred International, Inc.
RevoluSun
Silicon Valley Community Foundation
Structural Engineers Association
of Hawaii
Caren and Russell Taira
Dr. and Mrs. Gareth Wynn-Williams
The Wo Family

Contributors

\$500-\$999

Alexander & Baldwin Foundation
Wendell Ching
Samuel and Jann Dacanay
Eric DeCarlo
Geolabs Inc.
Jerris Hedges
Dr. Aaron Kaichi
Brian Kang
Flora Ling
Lyn Nagoshi
Keith and Nancy Rose
Wade Nishimoto
Pacific DirectConnect, Mike Browning
Michael Shimoko
Dr. Celia Smith
Thermal Engineering Corp.
Arthur Ushijima
Keith K. Yamakawa, DDS, LLC

Friends

\$100-\$499

AECOM
Masue Ando
Dr. Garrett Apuzen-Ito
ASME-HI
Austin Tsutsumi & Associates, Inc.
BDI Maritime
Belt Collins Hawaii Ltd.
CH2M Hill
Craig and Patty Ching
Susan Ching
Gordon and Gale Chock
Juro and Carole Fukuda
Gentry Homes, Ltd.
Don Hemmes
Jean Higaki
Darryl Higuchi and Bebra Rabinovich
Honda, Tsukiji & Assoc., LLP
Honolulu REACT Team 10
Judith Inouye
Wayne Wong and Myra Kaichi
Norma Kashinoki
Karl and Mae Kawahara
Dean and Carlyn Kagawa
Randall Kido
Clyde and Helen Kobayashi
Ellen Komeya
Derek and Georganne Kurisu
Mark and K.E.K. Maeda
Michelle Medeiros
Lawrence Miki
Reginald Nakamoto
Roy and Taeko Nakamoto
Blake Nuibe
Ethel Aiko Oda
Ellen and Clifton Onaga
Marjorie Oshiro
Park Engineering
Hanayo Sasaki
Marian Swider
Daniel and Ethel Takamatsu
Kyle and Jean Watanabe
David and Janice Wilson
Mr. & Mrs. Ronald Yokoyama
Dr. Wayne Yokoyama

MAJOR AWARDS PRESENTED AT THE HAWAII STATE SCIENCE AND ENGINEERING FAIR

Best in Division:

Hawai'i Academy of Science Grand Awards

The best projects in the Senior Research, Junior Research, and Junior Display Divisions were awarded plaques and ribbons by the Hawai'i Academy of Science. The best individual projects in categories 1–17 of the Senior and Junior Research Divisions were awarded cash prizes by the Hawai'i Academy of Science.

Best in Category:

Hawai'i Academy of Science

The best project in each category was awarded a ribbon by the Hawai'i Academy of Science. The Academy reserved the right to not award ribbons in categories where there were no worthy or applicable projects.

Student Trips:

BAE Systems, Chevron, Hawaiian Electric Company, Honolulu Rail for Growth and Sygenta

Two top senior research projects and one team received expense paid trips to the Intel International Science and Engineering Fair (ISEF) held in San Jose, California. Honolulu Rail for Growth sponsored the 1st place winners from the Leeward District fair. Sygenta sponsored students from Oahu and Kauai.

Science Teacher Awards:

Chevron and NOAA Pacific Service Center

Two outstanding science teachers who had shown a high degree of dedication to the science fair program received expense paid trips to the Intel International Science and Engineering Fair.

McInerny Foundation Scholarship Awards

Seven (7) 12th grade students with outstanding projects received a \$1000 scholarship award from the McInerny Foundation. Preference was given to projects in Engineering, Math, Physics, Chemistry, Computer Science and Space Science. The teachers of the winners received a matching \$1000 award to purchase classroom supplies and teaching aids.

The Queen's Medical Center

Twelve (12) \$500 Awards were given to JR/SR Students in the categories of Biochemistry, Medicine & Health, and Microbiology.

College of Engineering, University of Hawai'i, Manoa

Two (2) \$300 SR Student Awards, two (2) \$200 JR Student Awards, and two (2) \$150 Teacher Awards were given.

Hawaii Medical Service Association

Two (2) \$500 Awards were given to SR Students in the category of Medicine & Health.

College Scholarships

Hawaii Pacific University and the University of Hawai'i Foundation awarded scholarships.

Best Public School Senior Research Project:

Honolulu Star-Bulletin

The best Senior Division research project by a public school student was awarded a \$250 savings bond and a perpetual school trophy by the Honolulu Star-Bulletin.

Best Public School Junior Research Project:

Hawai'i State Dept. of Education

The Chamberlin Perpetual Trophy was awarded by the Hawai'i State Department of Education to the best Junior Division research project by a public school student.

Institute for Astronomy - University of Hawai'i Awards

The student with the best astronomy project in the Senior Research division won a trip to Mauna Kea and an evening at a telescope. Prizes were awarded to the best astronomy projects in the Junior Division.

Agency Awards

Over 100 organizations provided a wide range of awards in their particular areas of interest.



HAWAI'I ACADEMY OF SCIENCE

SCIENCE FAIR PROFILES
WRITTEN BY
CHRIS OLIVER

PHOTOGRAPHS BY
NEAL ATEBARA
HOAKA THOMAS
& HAS MEMBERS

HAWAI'I ACADEMY OF SCIENCE
1776 UNIVERSITY AVE. UA4-4
HONOLULU, HI 96822

EMAIL: ACADSCI@HAWAII.EDU
PHONE: 808-956-7930
FAX: 808-956-5183

VISIT US ONLINE AT:
WWW.HAWAII.EDU/ACADSCI