

AN EXHIBIT OF SCIENCE & ART MARCH I TO 30, 2019

THE ARTS AT MARKS GARAGE

# WELCOME TO SYMBIOSEAS!

This exhibit brings global awareness to the health of oceans and rehabilitation of coral reefs. It bridges the gap between science and art, highlighting their similarities and extending the research to broader audiences.

**SYMBIO**SEAS connects people on aesthetic and informative levels about the oceans, specifically Hawaiian Coral Reef communities, across multiple scales—from microscopic coral life cycles, plankton, symbioses to aerial views of reefs, reef biodiversity, macrofauna, interdependence and our global ecosystem.

### MAHALO SPONSORS



**INNOVATIVE ECOLOGY AWARD** 

WESTERN SOCIETY **OF NATURALISTS** 



#### EXHIBIT COMMITTEE

Beth Lenz. Director Kirsten Carlson, Exhibit Curator Abbey Seitz, **Events Coordinator** Christina Uyeno, Theater Coordinator

#### SCI-ART COLLABORATORS

Ceisha Bahr	Claire Lager
ohn HR Burns	Kasey Lindley
Kirsten Carlson	Beth Lenz
Kawelina Cruz	Aude Pacini
Kimberly De Souza	Lauren May
enny Floro	Eileen Nalley
on Goebel	Jocelyn Ng
Cassie Ka'apu-Lyons	Mariana Rocha de S
ade Kauwe	Emily Sesno
ngrid Knapp	



### **SYMBIO**SEAS is dedicated to Dr. Ruth Gates Hawai'i Institute of Marine Biology, Director March 28, 1962 - October 25, 2018

Ryan Sueoka, **ARTS at Marks Garage** Judy Lemus, HIMB Sponsor Kiki Rivera, Playwright

#### SCIENTISTS AS ARTISTS

Lauren Arnold Lars Bejder Evan Barba Kelle Freel Mykle Hoban Judy Lemus Ingrid Knapp Souza Elizabeth Madin Josh Madin Shayle Matsuda

Megan McElligott Aude Pacini Keano Pavlosky Mariana Rocha de Souza Mark Royer **Molly Timmers** Sarah Tucker Chris Wall Julie Zill

# **EXHIBIT** COMMITTEE









#### **Beth Lenz** Director

Beth Lenz is a PhD Candidate in the Gates Coral Lab. She is studying sexual reproduction in reef-building corals after maresearch is understanding resilience in corals and their offspring under current and future climate change conditions. She is originally from California where she completed her masters from California State University, Northridge and bachelors at UC Davis. Instagram | si\_que\_bueno / nerdnitehnl

#### **Kirsten Carlson Exhibit Curator**

Kirsten creates illustrations, graphics, logos and stories that inspire connections between people & nature. She is a children's book illustrator & writer, as well as the science communications manager at HIMB. She has curated several solo and group art shows and worked in the Exhibits Department at Monterey Bay Aquarium helping to design both permanent and temporary exhibits. She's been combining science and art for over 20 years. Her inspiration to do sci-com came from a research trip to Antarctica during her graduate work at Moss Landing Marine Laboratories in California. Website | www.kirstencarlson.net

#### Tina Uveno Theater Coordinator

Tina Uyeno is a local artist committed to community voices in Hawai'i. Former company actress for Honolulu Theatre for Youth, local improviser, and curator for Eat Cake Gallery. She will be making her bi-costal debut in Portland, Oregon this coming spring. Past works include Home of the Brave (HTY), Midsummer Nights Dream (HSF), and comedy duo act Musical Healing with Diana and Tina. Instagram | tinatealeaf

#### Kiki Rivera **Playwright**

Kiki Rivera (she, he, they, we, us) is an internationally produced, award-winning theatre artist, educator and arts activist. Kiki has her BA in Theatre and MFA in Playwriting from the University of Hawai'i at Manoa and member of the 2018 ArtEquity cohort. Instagram | xcelsior

#### **Ryan Sueoka ARTS at Marks Garage**

#### **Abbey Seitz Events Coordinator**

Minnesota native, is now a professional urban and regional planner based in Honolulu, Hawai'i. Until recently, academic and creative writing have been a passion project for her. Nonetheless, they have led her to contribute to the South Asia Research Journal, as well as online platforms such as Global Site Plans and Streets MN. Her experience in planning and community organizing in Hawai'i and abroad has played a distinct role in her writing, leading her to question why and how places, cities, and regions came to be as they are. She has worked on both physical and social planning initiatives, including her work consulting on state and county planning efforts in Hawai'i. She also has a distinct interest in community and grassroots organizing. In 2017, Abbey founded Hawai'i FEAST, a community organization that supports place-based and public artwork, as well creative advocacy, through community financing and social networks. FEAST refers to a community dinner, at which attendees pay to join a catered reception, and a portion of that payment is set aside as a prize. While attendees eat, mingle, and imbibe, different artists showcase their work and explain their proposed public art project. After the presenters are finished, attendees vote on which artist's project they wish to award the prize to. Since its inception in 2017, Hawai'i FEAST has hosted five community dinners and raised nearly \$4,000 in crowd-sourced funding to support local public art projects. Instagram | yebbaseitz / hifeast

#### **Judy Lemus HIMB Sponsor**

Dr. Judy Lemus is a marine scientist and "right-brainer" wannabe. She is fascinated by symbiosis in all its forms, which has been an overarching theme in her professional career, from marine biologist to educational specialist. She designs science education and professional development programs for learners of all ages and currently serves as Interim Director for the Hawaii Institute of Marine Biology as well as co-director of the Marine Biology Graduate Program at UH Manoa. Dr. Lemus is also the creator and director of MakerLab at the Hawaii Institute of Marine Biology, a discovery-based science lab and makerspace where she works with scientists, teachers, and artists on cool stuff. She spends her spare time practicing Okinawan karate and trying to channel her inner artist. Website | www.judylemus.com

# **EXHIBIT** COMMITTEE





# **PERFORMANCE** ARTISTS



#### **Anette Arinix**

Anette Arinix is a singer/songwriter and local improviser for ImprovHI. Her works include comedy writing for the ImprovHI SketchFest this past year, and was last seen in Wildbirds at Kumu Kahua Theatre and will be performing in Tony n'Tina's wedding at Manoa Valley Theatre.







**Jordan Cho** Jordan Cho holds a BFA in Theatre Performance from Florida International University. She most recently directed Lifeboat and Other Songs, for Hawaii Opera Theatre's HOT Offstage series and looks forward to directing The Tempest for Hawaii Shakespeare Festival's upcoming 2019 season. Jordan is also a member of the HOT full time staff as their Production Coordinator. As someone who has always had a passion for marine life and conservation, she is excited to have the opportunity to address these important issues through her love of theatre and the arts.

#### Daniel Chinemerem Ikejimba Jr.

Daniel Chinemerem Ikejimba Jr. (aka "Junior"; pronouns they/them) first gen Nigerian-American born and raised in Chicago, IL. Moved to Hawai'i in pursuit of my Masters in Clinical Mental Health Counseling at HPU. I've dance hip hop, popping n locking, ballet, contemporary, and modern for most of my life and hope to change the world through art, psychology, and communication.

#### Kiki Rivera

Kiki Rivera (she, he, they, we, us) is an internationally produced, awardwinning theatre artist, educator and arts activist. Kiki has her BA in Theatre and MFA in Playwriting from the University of Hawai'i at Manoa and member of the 2018 ArtEquity cohort.

### FEN

#### **Harmony Tesoro**

Ever the Artist at heart, Harmony Tesoro has made it her life's work to inspire, create, and communicate. In 2013, she founded HarmsaStar, a dance, yoga, and education company dedicated to all people, all ages. She currently holds an MFA in Dance, MA in Teaching, and BA in Theatre Arts. Harmony is truly humbled to be part of the arts movement in Hawaii, and as a choreographer and workshop leader, she has worked with the following diverse and influential organizations: Honolulu Theatre for Youth (Shocka; Red Balloon; A Bollywood Robin Hood,) Kumu Kahua Theatre (Demigods Anonymous), T-Shirt Theatre (Kipuka), Manoa Valley Theatre (Closer Than Ever), and the East West Center.

#### Tina Uyeno

Tina Uyeno is a local artist committed to community voices in Hawai'i. Former company actress for Honolulu Theatre for Youth, local improviser, and curator for Eat Cake Gallery. She will be making her bi-costal debut in Portland, Oregon this coming spring. Past works include Home of the Brave (HTY), Midsummer Nights Dream (HSF), and comedy duo act Musical Healing with Diana and Tina.

#### Diana Wan

Diana Wan is a drama teacher, improviser, mindfulness and yoga practitioner. She is drawn to practices that cultivate presence and allow for play. She enjoys sharing these practices with others in hopes of improving their quality of life in some way.

#### **Nicole Maileen Woo**

Nicole Maileen Woo is an interdisciplinary dancer and artist with over 20 years of experience. She received training at Dance Theatre of Harlem, Alvin Ailey American Dance Theater, The George Washington University and Escola de Danca in Salavador, Bahia. She is a member of Sewa Fare West African Dance and Drum Group of Hawaii and a former member of the award winning Balafon West African Dance Ensemble. Currently, she is exploring the relationship of movement, nature and spirit.

# **PERFORMANCE** ARTISTS









# SCIENCE-ART COLLABORATION

#### Kama'aina False Killer Whale Ceramic, Underglaze \$800



#### Artist Kimberly De Souza

The pieces I create are meant to inspire my audience to appreciate nature – both the weird and wonderful. I want them to remember that despite our busy lives that there is still wonder and awe in the natural world and that it shouldn't be forgotten or taken for granted. I would love for my art to be a catalyst for positive environmental awareness and change. Instagram | @bohobeing



#### Scientist Aude Pacini

I have been working with marine mammals for over 15 years. My research focuses on understanding how dolphins and whales use sound to navigate and communicate. I am also interested in better understanding and mitigating the effects of human activities on these top predators. Recently, my work has expanded to the use of innovative technologies such as non-invasive tags and drones to learn more about the behavior or marine mammals. I am very excited to be a part of the Sci-Art initiative and to share some of my non-scientific work. Instagram | @ mmrp\_uh

### SCIENCE-ART COLLABORATION Sea Sponge City Ceramic, Underglaze \$680

#### Artist Kimberly De Souza

The pieces I create are meant to inspire my audience to appreciate nature – both the weird and wonderful. I want them to remember that despite our busy lives that there is still wonder and awe in the natural world and that it shouldn't be forgotten or taken for granted. I would love for my art to be a catalyst for positive environmental awareness and change. Instagram | @bohobeing

#### Scientist Ingrid Knapp

I'm a postdoctoral researcher in the ToBo (Toonen-Bowen) lab at HIMB. My research interests are fairly broad, I'm pretty much interested in anything I can see in the ocean (sorry microbes). My undergraduate thesis was on mussel dropping behavior of gulls (from Bangor University, Wales, UK) and my PhD was on the ecology of sponges at Palmyra Atoll (from Victoria University of Wellington, New Zealand). My postdoc spanned helping to develop the ToBo lab's genome sequencing protocols for marine species (algae to fishes) to coral reef restoration, which is my current focus. Overall I'd consider myself an invertebrate ecologist at heart as I love championing the underdog, as well as helping to preserve ecosystems for future generations. Science introduced me to art via drawing dissections and learning to ID fish and I realized it was fun, relaxing, and provides important balance to my science career. Website | Ingridknapp.weebly.com





# SCIENCE-ART COLLABORATION

### SCIENCE-ART COLLABORATION Plankton Tow | Frozen in Time Plankton Net, Microscope, Mixed Media \$ [not for sale]

Video Animation [10:16 loop] \$ Silent Auction of original watercolors used in video



#### Artist Kasey Lindley

Kasey Lou Lindley was born in San Francisco, California and raised in Utah. She studied at the New York Studio Program, received her BFA from the Ringling College of Art & Design, and her MFA from the University of Connecticut. Lindley has exhibited nationally and internationally at venues in New York City, Boston, Honolulu, Salt Lake City, India, Germany, Turkey, and Croatia. Instagram | @\_k.lou.lin\_





#### Scientist Beth Lenz

Beth Lenz is a PhD Candidate in the Gates Coral Lab. She is studying sexual reproduction in reef-building corals after maresearch is understanding resilience in corals and their offspring under current and future climate change conditions. She is originally from California where she completed her masters from California State University, Northridge and bachelors at UC Davis. Instagram | @ si\_que\_bueno / nerdnitehnl

#### Scientist Mariana Rocha de Souza

Mariana Rocha de Souza is a Brazilian PhD student at the Hawaii Institute of Marine Biology, where the studies the symbiosis between the zooxanthelae (the algae that lives inside the coral and provide most energy for the coral) and the corals themselves! She has a master of Oceanography from University Aix Marseille and has worked with marine organisms in Brazil, France, Palau and California before moving to Hawaii. She is passionate about science and nature and is involved in many outreach and science communication programs to inspire others to care for the environment and follow similar path. She is thrilled to be part of this art-science collaboration! Instagram | @ marirsouza

#### Artist Kirsten Carlson

Kirsten creates illustrations, graphics, logos and stories that inspire connections between people & nature. She is a children's book illustrator & writer, as well as the science communications manager at HIMB. Kirsten collaborates on projects with scientists, educators, educational institutions, private companies and publishers to tell stories about nature. Her work appears in scientific journals, greeting cards, posters, books, aquariums and brochures. Kirsten brings her enthusiasm and skills as artist, scientist, and designer to every project she works on. She finds inspiration in nature and knowledge and strives to communicate that through the lens of science and art in her work. Instagram | @ artsyfishy

#### Scientist Cassie Ka'apu-Lyons

Cassie Ka'apu-Lyons is a doctoral student in the Marine Biology Program at the University of Hawai'i at Manoa. Her interests are in larval fish ecology. Specifically, her work focuses on the early life history stages of coral reef fishes: where do they go, who do they hang out with, and what do they eat between spawning and settlement on the reef. Instagram | @ cklyons





# SCIENCE-ART COLLABORATION

### SCIENCE-ART COLLABORATION Impact Triptych Alcohol Ink Painting \$600

Ceramic [top display] and Clay [lower display] \$ [not for sale]







#### Artist Lauren May

Lauren's ceramic art consists of functional wares and sculptural pieces including hangings, figurines, and beaded jewelry. Her work is inspired from her travels and from her time living in California, New Zealand, and Hawai'i. Lauren has been a member of the Hawai'i Potters Guild since 2014 and makes most her pieces in the cooperative studio space. Her ceramics are made with the intention of bringing good energy and joy to those who adorn themselves, their homes, or their gardens. When she is not busy with clay, Lauren can be found working as a Public Programs Manager at the Honolulu Museum of Art, spending time with her family, and running around on beaches after her young son. Instagram | @ Imayday

#### Scientist Claire Lager

Claire Lager is a coral biologist with the Smithsonian Conservation Biology Institute. Currently she is working with scientists and managers to restore coral reefs using cryopreservation techniques. She has been studying coral in Hawaii since 2007 and is excited for any opportunity to share the beauty and wonder of Hawaiian coral reefs. Instagram | @ foamy\_pivo

#### Scientist Emily Sesno

From coast to coast, I have traveled to study and understand the fascinating creatures in the sea. I completed my undergraduate degree in marine science at Eckerd College in St. Petersburg, Florida. In pursuit of my meducation by collaborating with SeaGrant to revamp an existing elementary school marine science curriculum. Instagram | @ htwoocean

### Artist Jenny Floro

Jenny is a certified art instructor with a degree in Fine Arts. She teaches alcohol ink, watercolor and acrylic painting classes throughout the Islands. While living in Hawaii for 20+ years, Jenny has captured her island-inspired artwork on everything from canvas and postcards... to wood and glass. Instagram | @ jennybhawaii

#### Scientist Claire Lager

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### **SCIENCE-ART** COLLABORATION Impact

Ceramic [top display] and Clay [lower display] \$ [not for sale]







#### Artist **Jocelvn Ng**

Jocelyn Kapumealani Ng is a queer Kanaka Maoli womxn of mixed descent, born and raised on the island of Oahu. As a multi-dimensional creative, she is a multi-time international slam poetry champion, a special effects make-up artist, body painter, theater performer, photographer and fabricator. Her work revolves around accessibility, representation, storytelling and healing. Her most recent body of collaborative interdisiplinary work, "She Who Dies To Live" was featured in the Smithsonian Asian Pacific American Center's culture lab exhibit 'Ae Kai and will be touring in 2019. To experience her transformation body art, you can find her on the "Art World Escape" app. Instagram | @ jocelynkng

#### **Scientist** Keisha Bahr

I am a coral reef ecologist interested in reducing human impacts on coral reefs in Hawaii. Instagram | @ keebasheeba

#### **Scientist Eileen Nalley**

Eileen grew up in Louisiana -- a place with a disappearing boundary between land and sea. Despite its overwhelming beauty and abundant resources, this watery world is under constant assault from human activities. Coming of age in this environment imprinted into Eileen a reverence for nature and a desire to understand how humans can sustainably coexist. This pursuit took her on a circuitous path through time and space that led to Hawaii where Eileen is a marine biology PhD student. Eileen is interested in the interplay between environmental, social, and political processes, and she finds the Hawaiian perspective on this trifecta fascinating. Her dissertation focuses on herbivores. Instagram | @ fishwishes

### **SCIENCE-ART** COLLABORATION "Reef"-ind Computer Tower, 3D Printed Corn-Based PLA Plastic \$5,000 (glitter included)

#### Artist Jade Kauwe | p@letsgetartsysenpai

Jade Kauwe is a fourth year art student working on a BA in Art. Focusing on photography, mixed media such as 3D printing/modeling, drawing, digital art, and painting. Jade does freelance photography when free for weddings and maternity photography.

### Artist

### Kawelina Cruz | @kawe\_art7

Kawelina Cruz is a fourth year art student working on a BA in art. Focusing on a variety of mixed media such as printmaking, drawing, digital art, painting and 3D printing/modeling.

#### **Art Professor** Jon Goebel | www.jongoebel.com

Jon Goebel is an avid printmaker known for his symbolically charged artworks. He received his MFA in Printmaking from Texas Tech University and serves as Associate Professor of Art at the University of Hawaii Hilo. He has shown in over 150 exhibitions in the United States and abroad and taught numerous color intaglio workshops across the Country and in China.

### **Scientist**

### Dr. John HR Burns | johnhrburns.com

Dr. John Burns studies coral health and disease. John recently developed innovate techniques to create three-dimensional maps of coral reefs to accurately measure how natural and human-induced disturbances impact ecosystem function. Dr. Burns completed his PhD at HIMB in 2016 working with Dr. Ruth Gates. and continued to work in the Gates Lab as a postdoctoral researcher until recently accepting a faculty position in the Marine Science Department at UH Hilo.

#### University of Hawaii, Hilo Art and Science Program **Collaboration supported by the Academy for Creative** Media (ACM).











#### Nineteen scientists affiliated with HIMB participated in this exhibit to showcase their creativity and share their scientific work.

The mission of the Hawai'i Institute of Marine Biology (HIMB) is to conduct multi-disciplinary research and education in all aspects of tropical marine biology. HIMB continues to be a world leader in research to understand and conserve tropical marine ecosystems. We develop and implement new technologies that advance the informed stewardship of Hawai'i's marine and coastal biodiversity.

HIMB is an independent research unit within the School of Ocean Earth Science and Technology (SOEST) at the University of Hawai'i at Mānoa.

HIMB is located on Moku o Lo'e (Coconut Island) in Kāne'ohe Bay on the windward side of O'ahu. Kāne'ohe Bay is the largest sheltered body of water in the Hawaiian archipelago.

Website | www.himb.hawaii.edu Twitter | @himb\_soest Instagram | @himb\_soest Facebook | @HawaiiInstituteOfMarineBiology

# SCIENTIST AS ARTIST



Lauren Arnold **Pelagic Fish Lab Carl Meyer** 

I am a first year graduate student in the Pelagic Fish Lab under Dr. Carl Meyer. I will be studying Sandbar sharks (Carcharhinus plumbeus) and their mating behavior. I recently graduated from the University of the Virgin Islands with a Bachelor of Science degree in Marine Biology. I have done internships at the esteemed Scripps Institution of Oceanography studying the critically endangered Nassau Grouper and NASA Goddard Space Flight Center studying exoplanets! I have always been interested in marine biology and astrophysics and I am lucky enough to be able to continue doing both at UH. I join Dr. Lauren Weiss at the Institute for Astronomy to remotely operate the Keck telescope on Maunakea in addition to doing my own shark research for my master's degree.

Twitter/Instagram @laurenannarnold



**Evan Barba** ToBo Lab

world.

Instagram @SeaHareDontCare

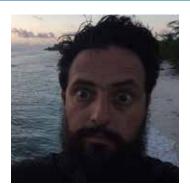
Evan grew up in a small mountain town in Northern California - hundreds of miles from the marine realm. He developed a fascination with the ocean and it's incredible inhabitants, prompting a move closer to the ocean at UC Santa Barbara to pursue a degree in marine biology. He now is now working at the Hawai'i Institute of Marine Biology as a PhD candidate in the Marine Biology Graduate Program at UH Manoa studying evolutionary processes. More specifically his research focuses on responses to environmental change by studying signals of adaptation on the population-, archipelago-, and community-scale specifically related to responses to reefscape change. His research incorporates population genomics, ecology, evolution, and bioinformatics, with and emphasis on data analysis and visualization. Evan is also an avid photography enthusiast, drawn to the underwater macro



**Kelle Freel Rappé Lab** 

Kelle grew up in Santa Cruz, California and spent the first 27 years of life a few miles from the ocean. She attended UC San Diego as an undergraduate and stayed in San Diego to complete her Ph.D. at Scripps Institution of Oceanography (SIO). At SIO, Kelle fell into the world of microbes, completing her thesis on the biogeography and diversity of a unique genus of marine bacteria responsible for the production of diverse antibiotics, Salinispora. After graduating, it was time to try something new and she moved to Strasbourg, France to work as a postdoc at the Université de Strasbourg, studying yeast genomics. While France brought many adventures, Kelle wanted to turn her focus back to the ocean, and is now a postdoc at the Hawaii Institute of Marine Biology with Dr. Michael Rappé, focusing on a globally abundant clade of fascinating marine bacteria, **SAR11**.

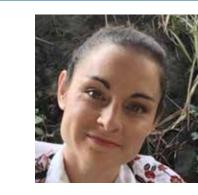
Website Rappelab.wordpress.com



**Mvkle Hoban** ToBo Lab

Mykle is a PhD candidate in the Toonen-Bowen lab at the Hawai"i Institute of Marine Biology, studying fish evolution, biodiversity, and twilight-zone coral reef ecosystems in the tropical Pacific. In a previous life, Mykle studied bronze casting and printmaking. The same motivations that once drove his artistic endeavors now inspire his scientific research.

Website myklehoban.com



Ingrid Knapp ToBo Lab

I'm a postdoctoral researcher. My research interests are fairly broad, I'm pretty much interested in anything I can see in the ocean (sorry microbes). My undergraduate thesis was on mussel dropping behavior of gulls (from Bangor University, Wales, UK) and my PhD was on the ecology of sponges at Palmyra Atoll (from Victoria University of Wellington, New Zealand). My postdoc spanned helping to develop the ToBo lab's genome sequencing protocols for marine species (algae to fishes) to coral reef restoration, which is my current focus. Overall I'd consider myself an invertebrate ecologist at heart as I love championing the underdog, as well as helping to preserve ecosystems for future generations. Science introduced me to art via drawing dissections and learning to ID fish and I realized it was fun, relaxing, and provides important balance to my science career.

Website Ingridknapp.weebly.com

**Judy Lemus** Lemus Lab, MakerLab

Dr. Judy Lemus is a marine scientist and "right-brainer" wannabe. She is fascinated by symbiosis in all its forms, which has been an overarching theme in her professional career, from marine biologist to educational specialist. She designs science education and professional development programs for learners of all ages and currently serves as Interim Director for the Hawaii Institute of Marine Biology as well as co-director of the Marine Biology Graduate Program at UH Manoa. Dr. Lemus is also the creator and director of MakerLab at the Hawaii Institute of Marine Biology, a discovery-based science lab and makerspace where she works with scientists, teachers, and artists on cool stuff. She spends her spare time practicing Okinawan karate and trying to channel her inner artist.

Website www.judylemus.com



**Dr. Elizabeth Madin Elizabeth Madin Lab** 

I grew up in the beautiful state of Kentucky and spent part of every childhood summer with my grandparents in and around Louisiana's waters. Those days spawned a lifelong fascination with the ocean. After graduating with from Emory University in Georgia with a joint degree in Psychology and Ecology, I decided to move to Australia to study marine science and conservation on the Great Barrier Reef. I received a Fulbright Fellowship to do so, later returned to the US to do my Ph.D. at the University of California, Santa Barbara, and have since been living between Australia and the US doing conservation-focused marine research.

Website www.oceansphere.org



Josh Madin J. Madin Lab

and storms.

Website jmadinlab.org

# **SCIENTIST** AS **ARTIST**

I am a quantitative ecologist who studies the structural complexity of coral reefs. This complexity houses a large number of other organisms, like fishes, crabs and sea urchins. I use three-dimensional modeling tools, such as photogrammetry and laser scanners, to generate 3D imagery of large swathes of reef as well as the individual colonies that make up the reef. I am interested in corals as engineering structures, including how they stand up to the physical forces generated by waves



Shayle Benjamin Matsuda **Gates Lab** 

Shayle is a science storyteller and PhD student. He uses DNA sequencing and 3D-imaging to study dynamic symbioses between coral and their algal partners. He is particularly interested in the intersection of technology and biology for creative problem solving and education. He is passionate about science communication (WIRED.com, Story Collider, Nerd Nite), was the creator and host of the science happy hour series, Science, Neat, in San Francisco. He is on the Leadership Team at ComSciCon (the National Communicating Science Workshop for STEM graduate students), the Diversity and Inclusion team at oSTEM, and an Ambassador at the Hydrous (thehydro.us). When not in the lab, Shayle is an avid science communicator and advocate for diversity in STEM. To see his live watercolor sketchnotes or to connect, find him on:

Twitter @wrong\_whale



Megan McElligott Marc Lammers

My paternal grandparents were both artists in San Francisco, and growing up I got to play with pastels and paints in their studio. Creating art has since been a way to feel connected to their memory. I also turn to painting when I need to relieve stress and get away from the computer for a while. I have always gravitated towards marine animals for both my studies and my art. I recently completed my master's degree at the University of Hawaii studying the acoustic behavior of spinner dolphins in Maui Nui, and I am currently in the first year of my PhD expanding that subject to Oahu and Hawaii. I hope to combine these passions by writing and illustrating books that encourage science education and conservation in imaginative ways.

Twitter @MeganM\_McE



Aude Pacini Marine Mammal **Research Program** 

I have been working with marine mammals for over 15 years. My research focuses on understanding how dolphins and whales use sound to navigate and communicate. I am also interested in better understanding and mitigating the effects of human activities on these top predators. Recently, my work has expanded to the use of innovative technologies such as non-invasive tags and drones to learn more about the behavior or marine mammals. I am very excited to be a part of the Sci-Art initiative and to share some of my non-scientific work.

Website mmrphawaii.org



K. Keano Pavlosky **Grau Lab** 

Keano is a 2016 graduate of UH Manoa with a master of science in molecular biosciences and bioengineering. Her MS research focused on fish endocrinology and environmental physiology, and was conducted at the Hawaii Institute of Marine Biology. Specifically, she looked at how variables associated with osmoregulation in a euryhaline teleost species, the Mozambique tilapia, respond to changes in environmental salinity during a simulated tidal cycle approximating the native, estuarine habitat of these fish. She is a graduate of Kamehameha Schools, and of Georgetown University, with a BA in economics and minor in studio art. She is a current third year medical student at the UH Manoa John A. Burns School of Medicine here in Honolulu.

**Research** Gate www.researchgate.net/ profile/K\_Keano\_Pavlosky

Mariana Rocha de Souza **Gates Lab** 

Mariana Rocha de Souza is a Brazilian PhD student at the Hawaii Institute of Marine Biology, where the studies the symbiosis between the zooxanthelae (the algae that lives inside the coral and provide most energy for the coral) and the corals themselves! She has a master of Oceanography from University Aix Marseille and has worked with marine organisms in Brazil, France, Palau and California before moving to Hawaii. She is passionate about science and nature and is involved in many outreach and science communication programs to inspire others to care for the environment and follow similar path. She is thrilled to be part of this art-science collaboration!

Website gatescorallab.com/ mariana-souza



**Mark Royer Holland Lab** 

marine life we study.

Website sharkmarkphotography.com

# **SCIENTIST** AS **ARTIST**

I am a PhD Candidate at the University of Hawai'i Mānoa, Hawai'i Institute of Marine Biology (HIMB) Shark Lab under the advisorship of Dr. Kim Holland. My dissertation research focuses on the physiology and behavior of large sharks that move between different thermal environments. I hope to use this research to help predict the effects a changing ocean environment will have on the behavior and ecology of these apex predators. As a member of the HIMB Shark Lab under Dr. Kim Holland and Dr. Carl Meyer, I have been involved with numerous tagging studies of a wide variety of shark species across the Hawaiian archipelago. I hope to use photography to not only provide a visual of the research we do, but to also capture wonder of the



**Molly Timmers** ToBo Lab

I am an admirer of intricate shapes and patterns created by the original artist, Evolution, in the realm under the blue blanket that surrounds us. For nearly 20 years I have been scuba-diving with the Pacific Reef Assessment and Monitoring Program of NOAA fisheries, assessing and monitoring amazing spineless critters (marine invertebrates) across the Pacific Ocean. With more than 1000 days at sea and over 1500 scuba dives, I have had the fortune to observe some of the most pristine coral reefs on Earth, which, like viewing the Sistine Chapel, is awe-inspiring for both are visually magnificent and have incredible composition and detail. My research focuses on the biodiversity of coral reef cryptofauna (hidden invertebrates) and the spatial distributions of the crown-of-thorns sea star. When I'm not wearing my science hat, you'll find me hiking, cycling, writing, reading fiction, singing show tunes, enjoying a Chimay, crushing in cribbage, and daydreaming of Middle Earth.



Sarah J. Tucker Rappé Lab

I have a passion for marine science and conservation that stems from an innate childhood curiosity about the sea. My research interests are in marine microbiology and center around questions that bridge that gap between ecology and evolution. As a PhD student in Dr. Michael Rappé's Lab at the Hawai'i Institute of Marine Biology, my dissertation research is focused on examining the genetic and metabolic diversity of abundant marine microbes in Kāne'ohe Bay. Microbes are the engines for most of the Earth's biogeochemical cycles, including the carbon and nitrogen cycle. Yet the public is still quite unaware of their important role in determining the climate of our planet. Teaching others about the importance of microbes is something that brings me great joy. When I am not doing research or talking science, I enjoy travelling, learning languages, swimming, and SCUBA.



Chris Wall Gates & Donahue Labs

I am a coral biologist studying the physiological ecology of scleractinian reef corals and how changing environmental conditions affect these ecologically significant animals and their symbiotic microbes. As a young man I fostered a strong connection with the ocean through diving and surfing, and this motivated me to pursue science and the study of coral reefs. I've been fortunate to have spent the last decade studying the endlessly fascinating and strange "coral beasts", but after all this time, I'm confident the corals were actually studying me. I am a photographer, a surfer, a musician, a husband, and father. Talk to me about stable isotopes.

Website www.coraloha.com



Julie Zilll Donahue Lab

I study coral reef fish ecology at the Hawai'i Institute of Marine Biology, but I've been experimenting with pottery since high school. I enjoy the process of testing different techniques and combinations of minerals as much as I'm interested in the final product that comes out of the kiln. I try to combine the artistic aspects of biology with the chemistry of ceramics in my artwork.

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