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89th ANNUAL MEETING of the AAAS PACIFIC DIVISION

PROGRAM with ABSTRACTS

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GENERAL SESSIONS

Sunday, 15 June 2008

TRADITIONAL HAWAIIAN BLESSING
Hawai`i Preparatory Academy
Sunday
4:00 PM

JOHN K. JENNY will perform an Oli Aloha and welcoming chant and Pule (prayer) for the beginning of the meeting.

SUNDAY DINNER/RECEPTION
Hawai`i Preparatory Academy
James E. Taylor II Dining Commons
Sunday
5:15 PM

Due to the nature of the foods chosen for this meal, tickets must have been purchased in advance, cost $26.00. Those holding an HPA room/board or meals-only ticket have this meal included in their package.

SUNDAY EVENING PUBLIC PLENARY LECTURE
Hawaii Preparatory Academy
Gates Performing Arts Center
Sunday
7:00 PM

1 *Following the Stars to Hawaii's Future: From Canoes to Telescopes and Back,* **KA`IU KIMURA** (Associate Director, The `Imiloa Center, Hilo, HI).

Monday, 16 June 2008

PACIFIC SCIENCE ASSOCIATION and TAHITI INTER-CONGRESS PLANNING DISCUSSION
Hawaii Preparatory Academy
Room 22
Monday
8:00 AM – 12:00 PM

MONDAY NOON PUBLIC LECTURE
Hawaii Preparatory Academy
Library
Monday
12:15 PM - 1:00 PM

2 *Wings Without Borders: Tracking Albatross Across the North Pacific,* **DAVID HYRENBACH[1], MICHELLE HESTER[2], HANNAH NEVINS[2,3], CAROL KEIPER[2], JENNIFER STOCK[4], JOSH ADAMS[5] and CHERYL BADUINI[6]** ([1]Marine Science, Hawaii Pacific University, Kaneohe, HI; [2]Oikonos, Bolinas, CA; [3]Moss Landing Marine Laboratories, Moss Landing, CA; [4]Cordell Bank National Marine Sanctuary, Olema, CA; [5]US Geological Survey, Western Ecological Research Center, Moss Landing, CA; [6]Claremont Colleges, Keck Science Center, Claremont, CA).

MONDAY EVENING HAPUNA BEACH PICNIC
Hapuna Beach
Monday
5:15 PM

Enjoy a special picnic meal at Hapuna Beach, catered by Sodexho, and watch the horizon for the "green flash" as the sun sets. (Be sure to protect your eyes from looking directly into the sun!!!) A chartered school bus will leave HPA from the Taylor Commons at 5:00 p.m. Or drive the eleven miles to the beach by turning left out of HPA, then right onto Highway 19 (Kawaihe Road). About 8 miles down the road turn left to continue on Highway 19 (Queen Kaahumanu Highway). In about 2 miles, watch for Hapuna Beach Road and follow the signs to the beach. Advance purchase of meal ticket required, cost $22.00. Those holding an HPA room/board or meals-only ticket have this meal included in their package.

Tuesday, 17 June 2008

TUESDAY EVENING PUBLIC LECTURE
Hawaii Preparatory Academy
Gates Performing Arts Center
Tuesday
7:00 PM

3 *A Vision for a More Self-reliant and Sustainable Food Future,* **NANCY REDFEATHER** (Hawai'i Island Food Summit Coordinator and School Garden Network Coordinator, The Kohala Center, Kamuela, HI) and **WILLIAM B.N. BERRY** (University of California, Berkeley, Berkeley, CA).

Wednesday, 18 June 2008

BUSINESS MEETING of the WESTERN SOCIETY of CROP SCIENCE
Hawaii Preparatory Academy
Student Union
Wednesday
11:00 AM

WEDNESDAY NOON PUBLIC LECTURE
Hawaii Preparatory Academy
Library
Wednesday
12:15 PM - 1:00 PM

4 *The Worldwide Implications of an Impending Varroa Mite Infestation of Honeybees on the Big Island of Hawaii,* **RICHARD SPIEGEL**, Volcano Island Honey Company.

STUDENT AWARDS PRESENTATIONS
Hawaii Preparatory Academy
Gates Performing Arts Center
Wednesday
5:30 PM

Affiliated society and Division representatives will announce the names of the student winners of sectional Awards of Excellence for their presentations at this meeting. Also announced will be the student winners of the Division-wide Laurence M. Klauber Award (unrestricted), Geraldine K. Lindsay Award in the Natural Sciences, J. Thomas Dutro Award in the Geosciences, Rita M. Peterson Award in Science Education, Presidents' Award (unrestricted), Best Poster Award (unrestricted), and the AAAS–Robert I. Larus Travel Award, which provides travel and other expenses for the awardee to present their winning research as a poster at the AAAS National Meeting in Chicago, IL February 12 – 17, 2009.

AAAS, PACIFIC DIVISION PRESIDENTIAL LECTURE
Hawaii Preparatory Academy
Gates Performing Arts Center
Wednesday
6:00 PM

5 *Philippine Coral Reefs: An Integrative Approach to Research, Education, Animal Husbandry and Public Outreach,* **TERRENCE M. GOSLINER** (President, AAAS, Pacific Division and Senior Curator, Department of Invertebrate Zoology and Geology, California Academy of Sciences, San Francisco, CA)

Wednesday, 18 June 2008, Continued

AAAS, PACIFIC DIVISION BANQUET
Hawaii Preparatory Academy
James M. Taylor II Dining Commons
Wednesday
7:15 PM

This annual event takes on a Hawaiian flavor with special foods chosen to reflect the many luaus (feasts) which occur in Hawaii. Special entertainment will be presented by **JOHN and HOPE KEAWE.** John is an award winning slack key (kihoʻalu) guitarist, composer and recording artist. Hope is an elegant hula dancer and has become an integral part of John's performances by providing beautiful interpretations of his original compositions as well as traditional Hawaiian songs. Tickets must have been purchased in advance, cost $35.00. Those holding an HPA room/board or meals-only ticket have this meal included in their package.

Thursday, 19 June 2008

MEETING of the COUNCIL of the PACIFIC DIVISION
Hawaii Preparatory Academy
Student Union
Thursday
7:00 AM - 10:00 AM

The Council of the AAAS, Pacific Division will hold its annual breakfast and business meeting starting at 7:00 a.m. in the Student Union at the Hawaii Preparatory Academy. The Council will elect officers, discuss programs for the 2009 and 2010 annual meetings, and transact such other business as is required by the Division's By-laws.

THURSDAY EVENING PUBLIC LECTURE
Hawaii Preparatory Academy
Library
Thursday
6:30 PM

6 *Current Affairs at the National Energy Laboratory of Hawaii Authority,* **RONALD BAIRD** (Director, National Energy Laboratory of Hawaii Authority)

TECHNICAL SESSIONS

1100 (time italicized and underlined) indicates a student presentation
***** indicates the speaker from among several authors listed
63 (bolded number) indicates the abstract number

I. SYMPOSIA

Monday, 16 June 2008

Conservation Status of Hawaiian Native Land Snails
Library
Monday
8:00 AM – 12:00 PM

Program Organizer: *Michael G. Hadfield* (Professor of Zoology, Kewalo Marine Laboratory, University of Hawaii at Manoa)

Sponsored by the Pacific Division Section on Ecology, Organismal Biology, and Environmental Sciences.

The Hawaiian Islands were once home to one of the greatest radiations of land snails in the world: nearly 800 endemic species in a land area less than that of New Jersey. Due to loss of habitat, introduced predators and massive shell collecting, at least 75% of these unique species are extinct. In this symposium, we will explore the relationships, evolution and conservation status of remaining endemic Hawaiian land snails, and consider impacts upon them of the great numbers of alien gastropod species that have become established in the islands.

Session Chair: Michael G. Hadfield

0800 *Introductory Remarks*

0805 **7** *Conservation Status of Hawaii's Severely Endangered Achatinelline Tree Snails,* ***MICHAEL G. HADFIELD and JENNIFER SAUFLER** (Pacific Biosciences Research Center and Department of Zoology, University of Hawaii at Manoa, Honolulu, HI)

0830 **8** *The Application of Microsatellite Data in the Study of Population Differentiation and Inbreeding in* Achatinella *Species*, ***BJORN ERICKSON[1] and MICHAEL HADFIELD[2]** ([1]Department of Animal Science, UC Davis, Davis, CA; [2]Kewalo Marine Laboratory, 41 Ahui St., Honolulu, HI)

0855 **9** *Simulating Historical Connectivity among Endangered Tree Snail Populations: A Novel Approach to Translocation,* ***KEVIN T. HALL and MICHAEL G. HADFIELD** (Department of Zoology, University of Hawai'i at Manoa, Honolulu, HI)

0920 **10** *What Can Phylogeography Tell Us about Conservation of Hawaiian Land Snails?* ***BRENDEN S. HOLLAND and ROBERT H. COWIE** (Pacific Biosciences Research Center, University of Hawaii, Honolulu, HI)

0945 **BREAK**

1010 **11** *Achatinellid Land Snails of the Pacific Islands: Phylogenetics, Phylogeography and Evolution,* **MEAGHAN E. PARKER** (Department of Zoology, University of Hawaii at Manoa, Honolulu, HI)

1035 **12** *Cryptic Succineid Diversity on the Island of Hawaii: Conservation Implications*, **WALLACE M. MEYER III** (University of Hawaii at Manoa, Department of Zoology, Honolulu, HI)

1100 **13** *Hawaiian Land Snail Diversity, Its Decline, and Replacement by Aliens*, **ROBERT H. COWIE and *BRENDEN S. HOLLAND** (Pacific Biosciences Research Center, University of Hawaii, Honolulu, HI)

1125 **14** *Introduction Pathways, Spread and Impacts of Alien Snails and Slugs in Hawaii*, ***KENNETH A. HAYES[1,2], ROBERT. H. COWIE[1], WALLACE M. MEYER[1,2], CHUONG T. TRAN[1] and JAYNEE R. KIM[3]** ([1]Center for Conservation Research and Training, University of Hawaii at Manoa, Honolulu, HI,; [2]Department of Zoology, University of Hawaii at Manoa, Honolulu, HI,; [3]Department of Biology, University of Hawaii at Manoa, Honolulu, HI)

1150 *Concluding Remarks,* Michael G. Hadfield

Missionaries and Museums, Imperialists and Nationalists, State Needs and Cold-War Politics: Anthropology in East and Southeast Asia
Room 42
Monday
8:20 AM – 5:00 PM

Program Organizer: *Alan L. Bain* (Smithsonian Institution Archives)

Sponsored by the Pacific Division section on Anthropology and Archaeology.

Session Chair: Alan L. Bain

0820 *Introductory Comments*

HAWAII

0830 **15** *Culture Change in Hawai`i Viewed from the Hilo Boarding School Carpentry Shop*, **LYNNE MACKIN**

WOLFORTH (Department of Anthropology, University of Hawai`i-Hilo, Hilo, HI)

The PHILIPPINES

0855 **16** *Colonial Exemplaries: Parsing the Birth of Evil in Philippine Colonial Ethnography*, **OONA THOMMES PAREDES** (Department of Anthropology, University of Missouri-Columbia, Columbia, MO)

0915 **17** *Towards the Decolonization of Philippine Anthropology: The Role of Ritual in the Formation of Post Colonial Research Agenda,* **MELANIE TAN UY (**Macquarie University, Australia)

1000 **BREAK**

CHINA

1020 **18** *Nation-Building and Anthropology during the Republican Period: David Crocket Graham and the Missionary Anthropological Enterprise in Western Sichuan (1922-1945),* **ANDREA RODRIGUEZ** (University of Oxford)

KOREA

1055 **19** *Korean War anthropology in Japanese, American and Korean Politics*, **ROBERT OPPENHEIM** (Department of Asian Studies, University of Texas at Austin, Austin, TX)

1120 *Commentator's Comments*, Robert Oppenheim

1140 *General Discussion*

1200 **LUNCH**

JAPAN

1315 **20** *Mixed-Blood and Adaptability: Japanese Racial Science, 1930s-1970s*, **TORU SAKANO** (College of Economics, Nihon University, Tokyo, JAPAN)

1345 **21** *Reap and Sow: Scientific Investigations of the Ryukyu Islands Under the United States Military Control*, **HIDEKAZU SENSUI** (Department of Business Administration, Kanagawa University, Kanagawa, JAPAN)

VIETNAM

1430 **22** *Colonial Surveillance, Postcolonial Controls and the Problematic Place of Anthropologists: Studying Vietnamese Caodaism in a Global Context*, **JANET HOSKINS** (Department of Anthropology, University of Southern California, Los Angeles, CA)

1450 **BREAK**

1510 **23** *Nationalism in Vietnam's Post-Colonial Anthropology*, **CHINH VAN NGUYEN** (Department of Anthropology, Hanoi National University, Hanoi, VIETNAM)

1540 **24** *Museums: Anthropology and the Work of Representing Culture in Contemporary Vietnam*, **MARGARET BARNHILL BODEMER** (Department of Anthropology, University of Hawai'i, Manoa, Honolulu, HI)

1620 *Commentator's Comments,* Janet Hoskins

1640 *General Discussion*

New Humanities and Science Convergences: Paradise Lost and.....Recoverable?

Room 21
Monday
8:30 AM – 11:45 AM

Program organizers: *Robert L. Chianese* (Department of English, California State University, Northridge, CA) and *Carl A. Maida* (Schools of Dentistry and Medicine, University of California, Los Angeles, CA)

Sponsored by the Pacific Division General and Interdisciplinary Section.

Tropical Pacific Islands, since their earliest discovery by the West, have been subjects of utopian dreams. Unspoiled natural abundance, balmy weather, Edenic beauty and welcoming, uninhibited natives fulfilled European fantasies of an Earthy Paradise. This paradise was soon lost: imported disease, imposed religious and social structures, exploitation of resources and habitats, and introduced flora and fauna spoiled it.

This symposium will explore the efforts of scientists, social scientists, and humanists to help restore these islands to a more natural, sustainable place that serves native as well as foreign interests. It addresses the topic as a series of questions:

- Have the actual tropical "paradises" been lost beyond recovery?
- Are the efforts of scientists, social scientists, humanists, artists, and writers to recover the place compatible with native peoples' wishes?
- In what ways are these efforts coordinated, interdisciplinary, and evidence of convergence among the disciplines?

The symposium will also consider how the issues confronting contemporary Pacific Island societies can shed light on broader questions of concern to both the sciences and the humanities:

- Has a spoiled Eden become a model for the Earth itself? Is such a model appropriate, helpful? What does it reveal or obscure?
- Do we need a utopian model of an earthly paradise to inspire us any more?
- What does the literature and art of the Islands and of utopia as an idea foretell about their future?
- Do current models of sustainability as applied to the islands hold the best promise for managing their future?

Session Chair: Robert L. Chianese

0830 Introductory Comments: Robert L. Chianese

0845 **25** *Science and Art: A Happy Symbiosis*, **SHOSHANAH DUBINER** (Studio Viva, LLC, 1330 Evan Lane, Ashland, Oregon, 97520; cybermusing@earthlink.net)

0915 **26** *Past and Future Malarial Landscapes in California's Great Central Valley,* **BARBARA YABLON MAIDA** (Department of Geography, 1255 Bunche Hall, University of California, Los Angeles, CA 90095; bymaida@ucla.edu)

0945 **27** *City-Building and Regionalism: Contrasting Images of Development in Early Modern Los Angeles and the Ow-*

ens Valley, **CARL A. MAIDA** (University of California, 63-037 Center for the Health Sciences, Los Angeles, CA 90095; cmaida@ucla.edu)

1015 BREAK

1045 **28** *The Rural Idyll: Counter-Urbanization and the North American Attempt to Recover Rural Paradise* **SUSAN J. MULLEY** (Department of Landscape Architecture, College of Environmental Design, CSU-Pomona, 3801 West Temple Ave, Pomona CA 91768 sjmulley@csupomona.edu)

1115 **29** *Ecological Awareness in American Landscape Art: Depicting and Repairing the American Wasteland,* **ROBERT LOUIS CHIANESE** (Department of English, 18111 Nordhoff Street, California State University, Northridge, CA 91330-8428; robert.chianese@csun.edu)

Current Research Perspectives on Palmyra Atoll, A Remote Central Pacific Outpost for Biodiversity

Gates Performing Arts Center
Monday
8:30 AM – 4:45 PM

Program Organizer: Healy Hamilton (California Academy of Sciences, San Francisco, CA)

Sponsored by the Pacific Division section on Ecology, Organismal Biology and Environmental Sciences

Lying a few degrees north of the equator and east of the dateline, Palmyra atoll consists of almost 700 acres of emergent tropical islets surrounded by the most intact tropical marine wilderness in U.S. jurisdiction. Its location in the deep Central Pacific and singular history of low human occupancy provide conditions that support healthy colonies of nesting seabirds, rare sea turtles, coconut crabs, mangrove and tropical wet forests, and a diverse, healthy coral reef ecosystem with an intact trophic structure. The surrounding oceanic region steers the machinery of global climate and has high predictive value regarding the character of ENSO cycles. For marine biologists, Palmyra provides a window into historic coral reef ecosystems now everywhere altered by human influences. For biogeochemists, the atoll provides a living archive of Holocene climate from a key region with little existing data. For conservation scientists, Palmyra is a laboratory in which to study the process of restoration in a natural system free from confounding human influence. In this symposium, we will explore this fascinating and unique central Pacific atoll. The emphasis will be on the biodiversity of Palmyra, its composition and biogeographic relationships. Results from recent ecological research will demonstrate the value of Palmyra as a laboratory that can advance the conservation of island and coastal systems worldwide.

Session Chair: Healy Hamilton

0830 *Introductory Comments and Movie: "Biodiversity and Conservation Science from the Remote Central Pacific"*

0850 **30** *Integrated Ecosystem Observations of Coral Reef Ecosystems of the U.S. Pacific Islands with a Focus on Palmyra and Kingman Atolls,* ***RUSSELL E. BRAINARD[1], JEAN KENYON[2], RONALD HOEKE[2], MARC LAMMERS[2], BENJAMIN RICHARDS[2], CRISTI RICHARDS[2], ROBERT SCHROEDER[2], BERNARDO VARGAS-ANGEL[2], SUSAN VOGT[2] and PETE VROOM[2]** ([1]NOAA, Pacific Islands Fisheries Science Center (PIFSC), Coral Reef Ecosystem Division, Honolulu, HI; [2]University of Hawaii, Joint Institute for Marine and Atmospheric Research and NOAA PIFSC Coral Reef Ecosystem Division, Honolulu,HI)

0920 **31** *Biogeography of Corals at Palmyra and other Central Pacific Atolls and Reef Islets,* **JAMES E. MARAGOS** (Pacific Remote Islands National Wildlife Refuge Complex, U.S. Fish and Wildlife Service, Honolulu, HI)

0950 **32** *Biodiversity and Biogeography of the Fishes of Palmyra Atoll*, ***BRUCE C. MUNDY, EDWARD E. DEMARTINI, FRANK A. PARRISH, BRIAN J. ZGLICZYNSKI, and ROBERT E. SCHROEDER** (NOAA Pacific Islands Fisheries Science Center, Honolulu, HI)

1020 BREAK

1045 **33** *Examination of Algal Diversity and Benthic Community Structure at Palmyra Atoll, U.S. Line Islands*, ***CRISTI L. BRAUN[1], JENNIFER E. SMITH[2] and PETER S. VROOM[1]** ([1]Joint Institute for Marine and Atmospheric Research, University of Hawai'i and Pacific Islands Fisheries Science Center (PIFSC), Coral Reef Ecosystem Division (CRED), Honolulu, HI; [2]NCEAS, University of California, Santa Barbara, Santa Barbara, CA)

1105 **34** *Ecology And Predator-Prey Dynamics Of Fishes At Palmyra Atoll NWR,* ***ALAN FRIEDLANDER[1], JENNIFER CASELLE[2], CHRISTOPHER G. LOWE[3] and YANNIS PAPASTAMATIOU[4]** ([1]NOAA/NOS Biogeography Branch and the Oceanic Institute, Waimanalo, HI; [2]Marine Science Institute, University of California Santa Barbara, Santa Barbara CA; [3]Dept. Biological Sciences, California State University Long Beach, Long Beach CA; [4]Department of Zoology, Hawaii Institute of Marine Biology, University of Hawaii at Manoa, Kaneohe, HI)

1125 **35** *Palmyra and the Line Islands as a Laboratory for Marine Conservation Research,* **STUART A. SANDIN** (Scripps Institution of Oceanography)

1145 LUNCH

1315 **36** *Behavioral Effects of Fishing on Coral Reefs*, ***ELIZABETH M.P. MADIN[1], STEVEN D. GAINES[1,2], and ROBERT R. WARNER[1]** ([1]Department of Ecology, Evolution and Marine Biology, University of California, Santa Barbara, CA; [2]Marine Science Institute, University of California, Santa Barbara, CA)

1335 **37** *Simulating Overfishing in the Near-pristine Coral Reefs of Palmyra Atoll*, ***DOUGLAS MCCAULEY[1], DAN BRUMBAUGH[2], KATE HOLMES[2], HEIKE LOTZE[3], ELIZABETH MADIN[4], LISA MAX[4], FIORENZA MICHELI[1], JENNIFER SMITH[5], DEREK TITTENSOR[3], BORIS WORM[3], and HILLARY YOUNG[1]** ([1]Department of Biology, Stanford University, Stanford, CA; [2]Center

for Biodiversity and Conservation, American Museum of Natural History, New York, NY; [3]Department of Biology, Dalhousie University, Halifax, NS, Canada; [4]Department of Ecology, Evolution and Marine Biology, University of California Santa Barbara, Santa Barbara, CA; [5]NCEAS, University of California, Santa Barbara, Santa Barbara, CA)

1355 **38** *Rats and the Reproductive Ecology of* Terminalia catappa *at Palmyra Atoll: An Example of How Invasive Rodents Influence Forest Structure on Low Tropical Islands,* **ALEXANDER S. WEGMANN** (Botany Department, University of Hawaii, Honolulu, HI)

1415 **39** Cocos nucifera *Drives Nutrient Depletion via Changes in Seabird Density at Palmyra Atoll,* ***HILLARY YOUNG, DOUGLAS MCCAULEY, and RODOLFO DIRZO** (Department of Biology, Stanford University, Stanford CA)

1435 **40** *Assessment of the Terrestrial Herpetofauna of Palmyra Atoll, Line Islands*, ***ROBERT N. FISHER and STACIE A. HATHAWAY** (San Diego Field Station, Western Ecological Research Center, United States Geological Survey, San Diego, CA)

1455 **BREAK**

1515 **41** *Vox Palmyra,* **BARRY W. STIEGLITZ** (U.S. Fish and Wildlife Service, Hawaiian and Pacific Islands National Wildlife Refuge Complex, Honolulu, HI)

1545 **42** *Scale Population Dynamics and Control Measures and the Status of* Pisonia grandis *at Palmyra Atoll NWR in 2007,* **EDITH NONNER (***Formerly:* University of Hawaii, Department of Molecular Biosciences and Bioengineering and The U.S. Fish and Wildlife Service, Pacific Remote Islands NWRC, Honokaa, HI)

1605 **43** *Coral Disease at Palmyra Atoll: Patterns of Spatial Distribution,* **GARETH J. WILLIAMS**

1625 **44** *Conservation Status of Globally Endangered Sea Turtles at the Palmyra Atoll National Wildlife Refuge (2005-2007),* ***ELEANOR J. STERLING[1], EUGENIA NARO-MACIEL[1], KATHERINE MCFADDEN[2], KATHERINE HOLMES[1], and PETER J. ERSTS[1]** ([1]Center for Biodiversity and Conservation, AMNH, New York, NY; [2]Columbia University, New York, NY)

Hawaiian Anchialine Pool Ecosystem Conservation and Management: The Present Status and Future of Anchialine Pools

Castle Lecture Hall
Monday
10:00 AM – 3:35 PM

Program Organizers: *Sallie Beavers* (Ecologist, National Park Service, Koloko-Honokohau National Historic Park, Kailua Kona, HI) and *David Foote* (USGS Biological Resources Division, Pacific Island Ecosystems Research Center, Hawaii National Park, HI)

Sponsored by the Pacific Division section on Ecology, Organismal Biology, and Environmental Sciences.

Anchialine pools are brackish-water pools that lack surface connection to the ocean, but are hydrologically connected to ground water and the ocean through the permeable aquifer. Anchialine habitats are unique ecosystems worldwide and support rare endemic species, including undescribed species. The Department of Land and Natural Resources estimates that there are between 600 and 700 anchialine pools in the state of Hawaii. Of these, the majority are found on the Kona Coast of Hawaii Island. Anchialine pools are culturally important to Hawaiians, and provided the fresh-water resource necessary to settle the arid Kona coast more than 800 years ago. Today, Hawaii's anchialine pools are increasingly threatened by introductions of alien species, unregulated collection of rare species, infilling by land-use development, alterations to water quality and water quantity from land development and ground-water withdrawals. Effective management tools and regulations need to be developed and implemented. This symposium will summarize the current knowledge of, and threats to, the anchialine pool ecosystem, as well as explore new avenues for research, management, and conservation.

Session Chair: Sallie Beavers

1000 *Introductory comments*

1005 **45** *Submarine Groundwater Discharge and Its Role in Anchialine Pond Dynamics of Kaloko-Honokohau National Historical Park on the Arid Kona CoastoOf Hawaii, USA,* ***ERIC GROSSMAN[1], DELWYN OKI[2], KAREN KNEE[3], ADINA PAYTAN[4], DAVID FOOTE[5], and SALLIE BEAVERS[6]** ([1]US Geological Survey, Pacific Science Center, Santa Cruz, CA; [2]US Geological Survey, Pacific Islands Water Science Center, Honolulu, HI; [3]Department of Geological and Environmental Sciences, Stanford University, Stanford, CA; [4] Institute of Marine Sciences, University of California, Santa Cruz, CA; [5]US Pacific Island Ecosystems Research Center, Hawaii National Park, HI; [6] Kaloko-Honokohau National Historical Park, Kailua-Kona, HI)

1035 **46** *Status of the Hawaiian Anchialine Resource – 36 Years of Observations*, ***RICHARD E. BROCK[1], JULIE H. BAILEY-BROCK[2] and ALAN K. H. KAM[1]** ([1]Water Resources Research Center, University of Hawaii, Honolulu, Hawaii; [2]Department of Zoology, University of Hawaii, Honolulu, HI)

1055 **47** *Understanding the Species Richness and Distribution of Anchialine Pools in Hawai'i,* **STEPHANIE LU** (The Nature Conservancy, Honolulu, HI)

1115 **48** *Reviving a Native Anchialine Community; A Case Study of Rotenone Use in Two Anchialine Pools at Hualalai Resort, Kaupulehu-Kona, Hawaii*, ***DAVID CHAI and AMBYR MOKIAO-LEE** (Hualalai Resort, Kailua-Kona, HI)

1135 **49** *Anchialine Pools and Candidate Conservation,* **LORENA WADA** (U.S. Fish and Wildlife Service, Honolulu, HI)

1155 **LUNCH**

1315 **50** *Population Genetics of an Anchialine Shrimp, Metabetaeus lohena, in the Hawaiian Islands*, ***ATLANTIS D. RUSS** and **CEDRIC C. MUIR** (Department of Tropical Conservation Biology and Environmental Science, University of Hawaii at Hilo, Hilo, HI)

1335 **51** *Wildlife Forensics: What DNA Reveals about the Biology and Conservation of Organisms from Hawaiian Anchialine Environments*, **SCOTT R. SANTOS** (Department of Biological Sciences, Auburn University, Auburn, AL)

1355 **52** *Biological Surveys of Anchialine Pools in Hawaii's National Parks*. ***DAVID FOOTE[1], LORI TANGO[2], CYNTHIA KING[2], MEREDITH ACLY[2] and KARL MAGNACCA[2]** ([1]US Pacific Island Ecosystems Research Center, Hawaii National Park, HI; [2]Pacific Cooperative Studies Unit, University of Hawaii, Honolulu, HI)

1415 **53** *Regional Protection and Management Strategies for Anchialine Pools,* ***SALLIE BEAVERS[1], MARISKA WEIJERMAN[2], ELIZABETH MARRACK[2], and KELLY KOZAR[3]** ([1]National Park Service, Kaloko-Honokohau National Historical Park, Kailua Kona, HI; [2]University of Hawaii, Cooperative Ecosystems Studies Unit, Kaloko-Honokohau National Historical Park, Kailua Kona, HI; [3]National Park Service, Inventory & Monitoring Program, Hawaii National Park, HI)

1435 *Discussion*

Physics, Materials Science and Nanotechnology

Room 41
Monday
10:00 AM – 2:55 PM

Organized by: *Philippe Binder* (Department of Physics and Astronomy, University of Hawaii – Hilo, Hilo, HI), *Shalilni Prasad* (Department of Electrical and Computer Engineering, Portland State University, Portland, OR) *Klaus Sattler* (Department of Physics and Astronomy, University of Hawaii – Manoa, Honolulu, HI) and *Panos Photinos* (Department of Physics and Engineering, Southern Oregon University, Ashland, OR).

Sponsored by the Pacific Division section on Physics and Materials Science

This fourth annual symposium on Materials Science and Technology will cover the synthesis, preparation, characterization and applications of novel smart materials, including:

- Biomaterials
- Ferroelectrics
- Liquid Crystals and Complex Fluids
- Nanomaterials
- Polymers
- Thin Films and Coatings

Session Chair: Panos Photinos

1000 Introductory Comments

1005 **54** *The Evolution of Cluster Early-Type Galaxies Over the Past 8 Gyr,* ***ALEXANDER FRITZ and INGER JØRGENSEN** (Gemini Observatory, Hilo, HI)

1035 **55** *Undergraduate Special Studies Projects in Support of the Development of the Galbreath Wildlands Preserve Observatory*, **SCOTT A. SEVERSON** (Department of Physics and Astronomy, Sonoma State University, Rohnert Park, CA)

1055 **56** *Electrical Conductance Anisotropy in a Shear Banding Micellar Solution*, **PANOS PHOTINOS** (Department of Physics and Engineering, Southern Oregon University, Ashland, OR)

1125 **57** *Towards A General Theory of Complex Systems,* **PHILIPPE BINDER** (Department of Physics and Astronomy, University of Hawaii – Hilo)

1155 **LUNCH**

1315 **58** *Structural and Mechanical Characterization of Spider Silk,* **VILUPANUR A. RAVI[1] and *DAVID E. CHAVEZ-TICAS[2]** ([1]Department of Chemical and Materials Engineering, California State Polytechnic University, Pomona, CA; [2]Department of Mechanical Engineering, California State Polytechnic University, Pomona, CA)

1335 **59** *Biosensors Based on Functional Nanoparticle Labels,* ***YUEHE LIN, HONG WU and JUN WANG** (Pacific Northwest National Laboratory, Richland, WA)

1405 **60** *Spin Acoustic Effect*, **PRASHANT SHARMA** (Department of Physics, Suffolk University, Boston, MA)

1425 **61** *Undergraduates using a 17 Tesla Superconducting Magnet System*, **JEREMY S. QUALLS** (Department of Physics and Astronomy, Sonoma State University, Rohnert Park, CA)