



Pacific Branch



ENTOMOLOGICAL SOCIETY OF AMERICA

Ninety-Third Annual Meeting

“50 Years of the Integrated Control Concept”

THE PIONEERS

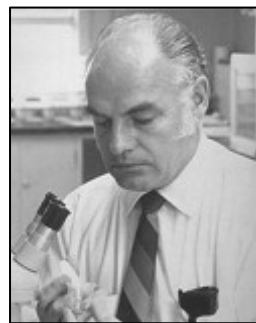


Dr. Kenneth S. Hagen
Dr. Robert van den Bosch



Dr. Vernon M. Stern

Dr. Ray F. Smith



**Bahia Resort Hotel, San Diego, California
March 29 – April 1, 2009**

**PACIFIC BRANCH
ENTOMOLOGICAL SOCIETY OF AMERICA
OFFICERS
2008-2009**

President **Walter J. Bentley**
University of California, Parlier, CA

President-Elect **Douglas Walsh**
Washington State University, Prosser, WA

Past-President **Larry D. Godfrey**
University of California, Davis, CA

Secretary-Treasurer **Mike Lees**
Dow AgroSciences, Granite Bay, CA

Representative on the Governing Board **Michael P. Parrella**
University of California, Davis, CA



President Walt Bentley

Executive Committee Members at Large

Nilsa Bosque-Perez University of Idaho, Moscow, ID (2006-2009)

Douglas Walsh Washington State University, Prosser, WA (2006-2009)

Brian L. Bret Dow AgroSciences, Roseville, CA (2007-2010)

Alberto Pantoja USDA-ARS, Fairbanks, Fairbanks, AK (2007-2010)

Robin Rosetta Oregon State University, Aurora, OR (2008-2011)

Mark Wright University of Hawaii, Honolulu, HI (2008-2011)

COMMITTEES 2008-2009

Local Arrangements	David Kellum & Jesse Richardson, Co-Chairs
Program	Steve Castle & Nilima Prabhaker, Co-Chairs
Auditing	Tad Gattenbein, Chair
Awards	Carolyn Pickel, Chair
Graduate Student Symposium	Shawn Steffan, Chair
Linnaean Games	Michael Costello, Chair
Nominations	Frank Zalom, Chair
Operations	David Haviland, Chair
Registration	Lucia G. Varela, Chair
Site Selection	Mark Wright, Chair (2011 meeting)
Student Paper/Poster Competition	Holly Ferguson, Chair
Employment Opportunities	David Cox, Chair
Photo Salon	Marshall Johnson, Chair
Membership	Bob Van Steenwyk, Chair
PBESA Website	Lucia Varela
Abstracts	Teresa Pitts-Singer, Chair
PBESA Rep. to ESA Student Affairs Committee	Ashfaq Sial

PACIFIC BRANCH ESA OFFICER NOMINATIONS

The Pacific Branch Nominations Committee composed of Frank Zalom (Chair), John Stark and Diane Alston recommends Roger Vargas for **President-Elect of the Pacific Branch**.

Roger Vargas is a Research Entomologist at the USDA-ARS Pacific Basin Agricultural Research Center in Hilo, Hawaii. His research interests include mass rearing, Sterile Insect Technique, ecology, biological control, and area-wide IPM of fruit flies. He received a Bachelor of Arts Degree in Zoology from the University of California at Riverside, a Master of Science Degree in Biology from San Diego State University, and a Ph.D. in Entomology from the University of Hawaii. Roger is the author or coauthor of over 175 scientific papers and book chapters. He has served consultant and technical assignments in the Republic of China, the People's Republic of China, Mexico, Central America, Japan, Pakistan, the Philippines, the Seychelles, Fiji, Mauritius, French Polynesia, Jordan, Israel, Austria and Australia. During the last 7 years he served as co-coordinator of the Hawaii Fruit Fly Area-Wide Pest Management program that has been recognized with seven major awards for excellence including the Federal Laboratories Consortium Award for Technology Transfer, a USDA Award for Superior Service, the USDA-ARS Technology Transfer Award, and the 2004 Entomological Society of America IPM Team Award sponsored by the Entomological Foundation.



Roger has been an active member of the ESA since 1976 when he entered the graduate program at the University of Hawaii. He has participated in Pacific Branch or National ESA meetings every year since, helping organize or participating in a number of symposia.

AWARDS

The C. W. Woodworth and John Henry Comstock Awards will be presented during the opening session on Monday, March 30, 8:30 a.m.–11:00 a.m. All other awards will be presented during the awards luncheon on Tuesday, March 31, 12:00-1:30 p.m.

C.W. WOODWORTH AWARD

The 2009 Woodworth Awardee is **Dr. Charles .G. Summers**, University of California, Davis, Kearney Agricultural Center for outstanding contributions to entomology during the past decade.

JOHN HENRY COMSTOCK AWARD

The 2009 Comstock Graduate Student Awardee is **Ms. Allison Hansen**, University of California, Riverside.

ACKNOWLEDGMENTS

The Pacific Branch of the Entomological Society of America would like to recognize the following companies and grower organizations for contributing to the success of the meeting by donating treats for the session breaks and gifts for the Entomological Foundation Raffle:

**Blue Diamond Almonds ❖ Del Monte Foods ❖ Gallo Wines
Sunmaid Raisins ❖ Lodi Wine Commission**

SUSTAINING SPONSORS 2009-2010

Gold (\$1,000)

BASF Corporation ❖ Dow AgroSciences LLC
Suttera LLC ❖ Syngenta Crop Protection, Inc.

Silver (\$500)

AgraQuest ❖ Bayer CropScience ❖ Pacific Biocontrol

Bronze (\$250)

Arysta ❖ DuPont Crop Protection ❖ FMC ❖ Gowan
MANA ❖ Nichino America, Inc. ❖ Trécé ❖ United Phosphorus

FUTURE MEETINGS

Boise, Idaho – 2010

Hawaii -- 2011

PACIFIC BRANCH MEETING NOTES

ABSTRACTS:

Abstracts will be available at http://groups.ucanr.org/_2009_PBESA/Abstracts/ after March 1, 2009.

AWARDS LUNCHEON:

The Awards Luncheon is scheduled for 12:00-1:30 p.m. on Tuesday, March 31 in the Mission Bay Ballroom BC. The luncheon cost is included in the registration fee. Extra lunch tickets can be purchased at the registration desk.

BRANCH MIXER AND PRESIDENT'S RECEPTION:

The Pacific Branch Mixer is scheduled for Monday evening, March 30, from 5:30-7:30 p.m. on the William Evans Stern Wheeler. Drinks and appetizers will be served. The mixer cost is included in the registration fee. Extra tickets can be purchased at the registration desk.

BUSINESS MEETINGS:

The preliminary business meeting will be held at the end of the opening session on Monday, March 30, 8:30 to 11:00 a.m. in the Mission Bay Ballroom A. The final business meeting will be held from 7:30-8:15 a.m. on Wednesday, April 1 in the Del Mar Room. Plan to attend to vote for officers and give input for future meeting sites.

EMPLOYMENT OPPORTUNITIES:

There will be a Job Interview Training Session on Tuesday, March 31 from 5:00-7:00 p.m. in the Shell Room.

EXECUTIVE COMMITTEE:

The Pacific Branch Executive Committee will meet Sunday evening, March 29, from 5:00-7:00 p.m. in the Marina Room.

HOTEL INFORMATION:

Headquarters for the meeting will be the Bahia Resort Hotel, 998 West Mission Bay Drive, San Diego, CA 92109, 858.488.0551. The cut-off date for reserving a room under the Pacific Branch ESA rate is March 6, 2009. For information go to <http://bahiahotel.com/>.

LINNAEAN GAMES:

The Games will be held on Monday, March 30, from 7:30-9:30 p.m. in the Del Mar Room. The winning Pacific Branch team will be able to compete in the National ESA Linnaean Games in Indianapolis, IN. Contact Dr. Michael Costello at 805-756-6732 or e-mail mcostell@calpoly.edu for more information.

MEETING INFORMATION AND SCHEDULE CHANGES:

Notices, meeting schedule changes and general information will be posted throughout the meeting at the Registration Desk. Information on points of interest, dining, and entertainment will be available from the hotel.

MEETING SCHEDULE:

Session moderators are responsible for keeping speakers on schedule. If a presentation is completed early, or cancelled, the moderator must ensure that the next presentation begins at the scheduled time.

ON SITE REGISTRATION:

Sunday, March 29, 3:00–7:00 p.m. in the La Jolla Room.

Monday, March 30, 8:00 a.m.–4:00 p.m. in Mission Bay Ballroom A Foyer

Tuesday, March 31, 8:00 a.m.–4:00 p.m. in Mission Bay Ballroom A Foyer

Everyone attending the Pacific Branch meeting must register. Those who are pre-registered may pick up registration materials at the registration desk. On-site registration is \$165.00 for members, \$205.00 for non-members, and \$65.00 for students, honorary/emeritus members, and guests. Credit card payments **cannot** be accepted for on-site registration—cash or check only.

PHOTO SALON:

“*AMAZING ARTHROPODS*”, a digitally projected photographic show of insects and other arthropods will take place in the Del Mar Room on Tuesday, March 31 from 7:00-8:00 p.m. Two awards, Best of Show and Best of Show by Student ESA Member, will receive a cash prize of \$50. Best of Show images and a few other selections will be shown at the Awards Luncheon on Tuesday.

POSTER DISPLAY PRESENTATIONS:

Student and general poster displays will be presented in the Ventana Room on Monday and Tuesday, March 30-31, from 9:00 a.m. to 5:00 p.m. The Ventana Room will be available on Monday from 8:00-9:00 a.m. for authors to set up their displays in advance. Displays should be taken down by 6:00 p.m. Tuesday. Posters should not exceed 4 ft. x 4 ft. in size. Authors need to bring their own pushpins. Authors are expected to be present at their posters from 9:00-10:00 a.m. and from 2:00-3:00 p.m. on Tuesday, March 31.

POWERPOINT SLIDESHOW PRESENTATIONS:

The presentation format will be PowerPoint files using laptop computers and projectors. Laptop computers with Microsoft Windows XP and projection equipment will be available on site. Please use your last name and first initial as file name for your presentation, i.e. HavilandD.ppt. If you have more than one presentation, number them in sequence, i.e. HavilandD1.ppt; HavilandD2.ppt. Mac users please make sure your presentation file has a .ppt file extension. PowerPoint files may be emailed to: David Haviland (dhaviland@ucdavis.edu) by 5:00 p.m. (PST), Wednesday, March 25, 2009. PowerPoint files may be brought to the meeting on a CD or flash drive (memory stick). Speakers should bring PowerPoint files to the Computer Presentation desk (next to the Registration desk) by 6 p.m. the evening before their scheduled session. The meeting Operations Committee will assist with transferring files. Please contact David Haviland at 661-868-6215 or by e-mail, dhaviland@ucdavis.edu regarding questions about meeting Audio/Visual operations.

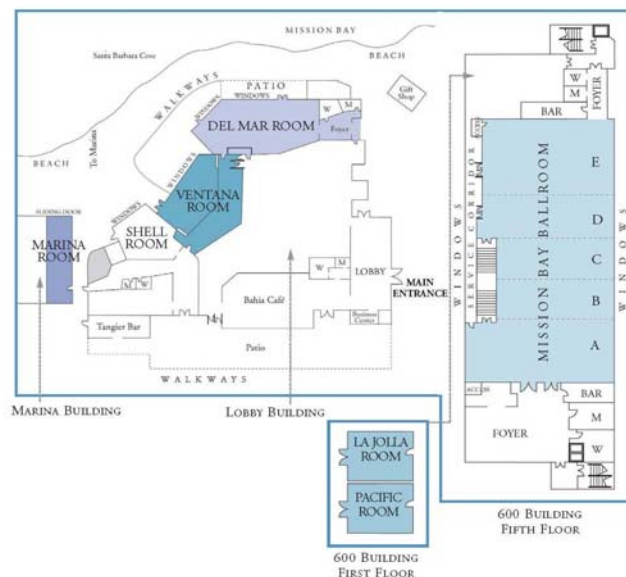
TRANSPORTATION:

From the San Diego Airport, Cloud 9 Super Shuttle will provide transportation to the Bahia at the rate of \$13.00 per person, each way. Shuttle reservations can be made at 800-258-3826. Taxis are also available at the rate of \$25.00 to \$30.00.

WEATHER:

Weather in San Diego during March and April is quite pleasant. Temperature will range from 70 °F to 80° F during the day and in the 60°F range at night. There is a slight chance of rain. Be sure to carry sunscreen when headed to the beach.

HOTEL MEETINGS ROOMS -- MAP



PROGRAM

Sunday Afternoon, March 29

Registration

La Jolla Room

3:00 p.m. – 7:00 p.m.

Executive Committee Meeting

Marina Room

5:00 p.m. – 7:00 p.m.

Monday, March 30

Registration

Mission Bay Ballroom A Foyer

8:00 a.m. – 4:00 p.m.

Opening Session and Preliminary Business Meeting

Monday, 8:00 a.m. – 11:30 a.m. -- Mission Bay Ballroom A

- 8:30** **Welcome and Opening Remarks,**
Walter Bentley, President, Pacific Branch, Entomological Society of America.
- 8:40** **President's Report from the Entomological Society of America,**
Marlin Rice, President, ESA
- 9:00** **Executive Director's Report from the Entomological Society of America, Robin**
Kriegel, Executive Director, ESA
- 9:15** **Report from the Governing Board,**
Michael Parella, Representative, Pacific Branch.
- 9:25** **Report from the Entomological Foundation,**
Nick Toscano
- 9:30** **Introduction of the C. W. Woodworth Award:**
"C. W. Woodworth, the Entomologist We Honor",
Walter Bentley, President.

- 9:35** **2009 C. W. Woodworth Award Winner Presentation,**
Dr. Charles G. Summers, University of California, Davis.
“Biology of the Corn Leaf Hopper and Corn Stunt Spiroplasma in the San Joaquin Valley”
- 10:00** **2009 John Henry Comstock Award Winner Presentation,**
Ms. Allison Hansen, University of California, Riverside
“Psyllids: It’s What’s Inside That Counts”
- 10:25-10:55** **Preliminary Business Meeting, Walter Bentley**, President, Pacific Branch,
Entomological Society of America.
- 11:00 Adjourn**

Lunch on your own from 11:00 a.m. – 1:30 p.m.

STUDENT SYMPOSIUM:
Entomology and Evolutionary Theory:
Celebrating 150 Years of “On the Origin of Species”

Del Mar Room

Monday, 1:30 p.m. – 5:00 p.m.

Moderator: **Shawn Steffan**, Washington State University, Pullman, WA

- 1:30 Welcome & Introduction**, Shawn A. Steffan, Washington State University,
Department of Entomology, Pullman, WA
- 1S 1:40 THE EVOLUTION OF FLIGHTLESSNESS IN CAVE AND ALPINE HAWAIIAN MOTHS**, Matthew J. Medeiros, Department of Integrative Biology, University of California, Berkeley, CA, 94720
- 2S 2:00 “ON THE INHABITANTS OF OCEANIC ISLANDS”: FOUNDER EVENTS INFLUENCE DIVERSIFICATION IN A HOST-SPECIALIZED LINEAGE**, Kari Roesch Goodman, Stephen C. Welter & George K. Roderick, University of California at Berkeley, Department of Environmental Science, Policy and Management, Berkeley CA
- 3S 2:20 CAN QUANTITATIVE POLLINATION WEBS PROVIDE INSIGHT TO CO-EVOLUTION WITHIN A DEGRADED HAWAIIAN ECOSYSTEM?**
Patrick R. Aldrich, University of Hawaii-Manoa, Department of Zoology, Honolulu, HI
- 4S 2:40 TRANSPOSABLE ELEMENTS: A STRONG FORCE IN GENOME EVOLUTION**, Jennifer Wright and Peter Atkinson, University of California-Riverside, Entomology Department, Riverside, CA
- 3:00 BREAK**

- 5S 3:20 **DIVERSIFICATION AND BIOGEOGRAPHY OF THE CRYOPHILOUS INSECT FAMILY GRYLLOBLATTIDAE**, Sean Schoville, University of California-Berkeley, Department of Environmental Science, Policy and Management, Berkeley CA
- 6S 3:40 **CO-SPECIATION OF INSECTS WITH THEIR BACTERIAL ENDOSYMBIONTS**, Allison Hansen, University of California-Riverside, Entomology Department, Riverside, CA
- 7S 4:00 **INSECTICIDE RESISTANCE: EVOLUTION IN THE VISIBLE SPECTRUM**, Ashfaq A. Sial, Jay F. Brunner, John E. Dunley, and Michael D. Doerr, Washington State University, Department of Entomology, Tree Fruit Research and Extension Center, Wenatchee WA
- 8S 4:20 **EXPLORING THE EVOLUTION OF THE HAWAIIAN *NYSIUS* SEED BUG LINEAGE: PHYTOPHAGY TO CARNIVORY IN 500,000 YEARS?** Jesse Eiben and Daniel Rubinoff, University of Hawaii-Manoa, Department of Plant and Environmental Protection Sciences, Honolulu, HI
- 9S 4:40 **RAPID SPECIATION REFUTED: MOLECULAR DATA DO NOT SUPPORT RECENT DIVERSIFICATION OF *OMIODES* (LEPIDOPTERA: CRAMBIDAE) ONTO A NON-NATIVE HOSTPLANT**, William P. Haines and Daniel Rubinoff, University of Hawaii-Manoa, Department of Plant and Environmental Protection Sciences, Honolulu, HI
- 5:00 **ADJOURN**

**SYMPOSIUM: Chemical Ecology Based Pest Management:
50 Years After the First Pheromone Synthesis**

Mission Bay Ballroom A

Monday, 1:30 a.m. – 5:00 p.m.

Organizers and Moderators: **Jack Jenkins**, Pacific Biocontrol, Phoenix, AZ and
John Byers, USDA-ARS, Maricopa, AZ

- 1:30 **Welcome and Introduction**, John Byers
- 10 1:35 **CONTROLLING MOTH PESTS BY MATING DISRUPTION: MULTIPLE PATHS TO EFFICACY**, Ring T Cardé, Department of Entomology, University of California, Riverside, CA
- 11 1:55 **HAPPY 50th BIRTHDAY PHEROMONES**, Walter S. Leal, Department of Entomology, University of California, Davis CA
- 12 2:15 **SIMULATION OF MATING DISRUPTION AND MASS TRAPPING USING THE EFFECTIVE ATTRACTION RADIUS**, John A. Byers, US Arid-Land Agricultural Research Center, USDA-ARS, Maricopa, AZ

- 13 2:35 ADOPTION OF PHEROMONE TECHNOLOGY IN APPLE AND ITS IMPACT ON IPM PROGRAMS**, Jay F. Brunner, Larry J. Gut, and Vincent Hebert, ¹Washington State University, Tree Fruit Research & Extension Center, Wenatchee WA; ²Michigan State University, Department of Entomology, East Lansing, MI; ³Washington State University, Food & Environmental Quality Laboratory, Richland, WA
- 2:55 BREAK**
- 14 3:15 SEMIOCHEMICALS FOR DETECTION AND CONTROL OF CERAMBYCID BEETLES**, Jocelyn G. Millar¹, Lawrence M. Hanks², and James D. Barbour³; ¹Department of Entomology, University of California, Riverside CA; ²Department of Entomology, University of Illinois, Urbana IL; ³Southwest Idaho Research and Extension Center, University of Idaho, Parma ID
- 15 3:35 BARK BEETLE HOST SELECTION BEHAVIOR: THE THEORY AND PRACTICE BEHIND PROTECTING FOREST TREES WITH REPELLENT SEMIOCHEMICALS**, Steven J. Seybold¹ and Andrew D. Graves²; ¹Chemical Ecology of Forest Insects, USDA Forest Service, Pacific Southwest Research Station, Davis, CA; ²Department of Plant Pathology, UC-Davis, Davis, CA
- 16 3:55 SUSTAINABLE, AREA-WIDE BARK BEETLE MANAGEMENT USING ANTIAGGREGATION SEMIOCHEMICALS**, N. E. Gillette, J.N. Webster, D.R. Owen, N. Erbilgin, C. Mehmehl, S. R. Mori, L. Pederson, D.L. Wood, ¹USDA Forest Service, PSW Research Station, Berkeley, CA, United States; ²Jeff Webster Consulting Forester, Redding, CA; ³California Department of Forestry and Fire Protection, Redding, CA; ⁴Department of Renewable Resources, University of Alberta, Edmonton, AB, Canada; ⁵USDA Forest Service, Forest Health Protection, Wenatchee, WA; ⁶USDA Forest Service, Forest Health Protection, Coeur d'Alene, ID; ⁷Department of Environmental Science, Policy and Management, University of California, Berkeley, CA
- 17 4:15 PROMISE UNFULFILLED: COMMERCIAL USE OF PLANT CHEMISTRY FOR PEST MANAGEMENT**, Murray B. Isman and Dan Badulescu, Faculty of Land and Food Systems, University of British Columbia, Vancouver, Canada
- 18 4:35 PLANT CRYING FOR HELP: HOW HERBIVORE-INDUCED PLANT VOLATILES CAN IMPROVE CONSERVATION BIOLOGICAL CONTROL**, David James, V. Herbert, L. Wright, J. Lepage, and D. Brooks, Washington State University, Pullman, WA
- 19 4:55 IN SITU VOLATILES FROM A SINGLE CULTIVAR OF *PRUNUS DULCIS*, AND THEIR RELATIONSHIP TO NAVEL ORANGEWORM**, John J. Beck, Glory B. Merrill, Wai S. Gee, Bradley S. Higbee, and Douglas M. Light, ¹Plant Mycotoxin Research, USDA-ARS, WRRRC, Albany, CA; ²Paramount Farming Company, Bakersfield, CA
- 5:15 ADJOURN**

10 Minute Student Paper Competition

Shell Room

Monday, 1:30 p.m. – 5:00 p.m.

Moderator: **Alberto Pantoja**, ARS/USDA Fairbanks, AL and **Gail Getty**, University of California, Berkeley

MS Oral Presentations

- 20SP 1:30 SUBLETHAL EFFECTS OF PESTICIDE RESIDUES WITHIN HONEY BEE COMB AS A CONTRIBUTING FACTOR TO CCD?**
Judy Y. Wu, Carol M. Anelli, Steve S. Sheppard, Department of Entomology, Washington State University, Pullman, WA
- 21SP 1:42 DETECTION AND IPM OF THE BLACK GRASS BUG**, A. Kneeland, A. Latchininsky, B. Rashford, Department of Entomology, University of Wyoming, Laramie, WY
- 22SP 1:54 POPULATION DYNAMICS AND SAMPLING OF CUCUMBER BEETLES IN CALIFORNIA MELON AGROECOSYSTEMS**, Andrew Pedersen and Larry Godfrey, Dept. of Entomology, University of California, Davis, Davis, CA
- 23SP 2:06 MOSQUITO CAPTURE RATES IN TRAPS WITH/WITHOUT WILD BIRDS, AND HOST PREFERENCE OF CAPTURED MOSQUITO SPECIES**, Taylor Lura¹, Alec Gerry¹, and Robert Cummings²; ¹Department of Entomology, University of California, Riverside, Riverside, CA, ²Orange County Vector Control District, Garden Grove, CA
- 24SP 2:18 USING A NATIVE FISH AS AN ALTERNATIVE BIOCONTROL METHOD TO THE MOSQUITOFISH, GAMBUSIA AFFINIS**, Adena M. Why¹, Bonnie Nash², Richard Zembel², Kerwin Russell³, William Walton¹; ¹Department of Entomology, University of California, Riverside, Riverside, CA, ²Orange County Water District, Fountain Valley, CA, ³Riverside Corona Resource Conservation District, Riverside, CA

PhD Oral Presentations

- 25SP 2:30 RESISTANCE RISK ASSESSMENT FOR NOVEL REDUCED-RISK INSECTICIDES IN OBLIQUEBANDED LEAFROLLER (LEPIDOPTERA: TORTRICIDAE)**, Ashfaq A. Sial, Jay F. Brunner, John E. Dunley, and Michael D. Doerr, Department of Entomology, Washington State University, Tree Fruit REC, Wenatchee WA 98801
- 26SP 2:42 CONTROL OF CITRUS THRIPS, SCIRTOTHRIPS CITRI, ON BLUEBERRIES WITH *BEAUVERIA BASSIANA* IN THE SAN JOAQUIN VALLEY OF CALIFORNIA**, Deane K. Zahn¹, David R. Haviland², and Joseph G. Morse¹; ¹Department of Entomology, University of California, Riverside, CA, ²UC Cooperative Extension, Kern County, Bakersfield, CA

- 27SP 2:54 RESPONSES OF MALE *HYALOPTERUS PRUNI* AND *BRACHYCAUDUS HELICHRYSI* TO DIFFERENT BLEND RATIOS OF APHID SEX PHEROMONE**, Emily J. Symmes and Frank G. Zalom, Department of Entomology, University of California, Davis, CA
- 3:06 BREAK**
- 28SP 3:18 INTRASPECIFIC VARIATION IN PENETRANCE OF WOLBACHIA-INDUCED THELYTOKY IN THE PARASITOID WASP, *TRICHOGRAMMA KAYKAI***, Genet M. Tulgetske and Richard Stouthamer, Department of Entomology, University of California, Riverside, CA
- 29SP 3:30 UTILIZATION OF A NATIVE MYCOPHAGOUS COCCINELLID AS AN INDICATION AND DECISION SUPPORT DEVICE FOR MANAGEMENT OF GRAPE POWDERY MILDEW IN A COMMERCIAL VINEYARD**, Andrew M. Sutherland, Dept. of Entomology, University of California, Davis, CA
- 30SP 3:42 KILLING TWO BIRDS WITH ONE STONE: NON-TARGET EFFECT OF DIMILIN ON HORN FLIES**, Stevens, Bryan K., and Alexandre V. Latchininsky, University of Wyoming, Extension Entomology, Laramie, WY
- 31SP 3:54 EFFECTS OF TEMPERATURE ON GROWTH AND DEVELOPMENT OF *EPEORUS ALBERTAE* (MCDUNNOUGH) (EPHEMEROPTERA: HEPTAGENIIDAE) NYMPHS**, Melissa A. Scherr¹, David Wooster², Sujaya Rao¹; ¹Departement of Crop and Soil Science, Oregon State University, Corvallis Oregon; ²HAREC, Oregon State University, Hermiston Oregon
- 4:06 ADJOURN**

Student Poster Competition

Ventana Room

Monday & Tuesday, 9:00 a.m. – 5:00 p.m.

MS Student Poster Competition

- 1SPO LABORATORY ANALYSIS AND FIELD SAMPLING OF PNW HONEY BEES FOR MICROSPORIDIA, *NOSEMA APIS* AND *NOSEMA CERANAE***, Matthew Smart, Steve Sheppard, Washington State University, FSHN Building, Pullman, WA
- 2SPO DETERMINING THE INOCULATION ACCESS PERIOD BY THE POTATO PSYLLID TO EFFECTIVELY INDUCE ZEBRA CHIP POTATO DISEASE**, Jeremy L. Buchman^{1,2}, Venkatesan G. Sengoda^{1,2}, Joseph E. Munyaneza²; ¹Washington State University, Pullman, WA, ²USDA-ARS, Yakima Agricultural Research Laboratory, Wapato, WA

- 3SPO FEEDING PREFERENCES OF THE FIREBRAT AND IMPLICATIONS FOR PEST CONTROL**, Mirtza M. Millard, Urban Entomology Lab, Department of Entomology, University of California, Riverside, CA
- 4SPO VIBRATIONAL MATING CALLS OF BLUE-GREEN SHARPSHOOTERS (GRAPHOCEPHALA ATROPUNCTATA) AS INDICATION OF INCIPIENT SPECIATION BETWEEN POPULATIONS IN CALIFORNIA**, Elissa Wampler¹, Mark Hoddle^{1,2}; ¹Department of Entomology, University of California-Riverside, Riverside, CA, ²Center for Invasive Species Research, University of California, Riverside, CA

PhD Student Poster Competition

- 5SPO IMPACT ASSESSMENT OF VINEYARD FUNGICIDES ON THE PREDATORY MITE *TYPHLODROMUS PYRI***, A. Gadino, V. Walton, A. Dreves, Dept. of Horticulture, Oregon State University, Corvallis, OR
- 6SPO CUTTING FAILURE AND DAMAGE CHARACTERIZATION IN PACIFIC NORTHWEST HYBRID POPLARS**, R. Andrew Rodstrom, John J. Brown, John R. Rodstrom and Martin E. Fortney, Washington State University, Department of Entomology, Pullman, WA
- 7SPO THE POLLEN FORAGING BEHAVIOR OF A NATIVE POLLINATOR, *BOMBUS VOSNESENSKII* (HYMENOPTERA: APIDAE), IN AN AGROECOSYSTEM**, Kimberly M. Skyrn, Sujaya Rao, William P. Stephen, Oregon State University, Department of Crop and Soil Science, Corvallis, OR.
- 8SPO DISPARATE REPRODUCTIVE STRATEGIES OF LEAFROLLER-ATTACKING TACHINIDAE IN WASHINGTON ORCHARDS**, Nik G. Wiman and Vincent P. Jones, Washington State University, Tree Fruit Research and Extension Center, Wenatchee, WA.
- 9SPO EFFECTS OF ALLOCHTHONOUS ORGANIC MATERIAL ON LARVAL MOSQUITOES (DIPTERA: CULICIDAE)**, Jennifer A. Henke and William E. Walton, Department of Entomology, University of California, Riverside, CA
- 10SPO EFFECTS OF ADJACENT LAND USE ON BENTHIC MACRO-INVERTEBRATES IN THE UMATILLA RIVER, EASTERN OREGON**, Melissa A. Scherr¹, David Wooster², Sujaya Rao¹; ¹Departement of Crop and Soil Science, Oregon State University, Corvallis Oregon; ²HAREC, Oregon State University, Hermiston Oregon
- 11SPO ORNATE ANT-KILLERS CONQUER AFRICA**, Elizabeth Murray and John Heraty, Dept. of Entomology, University of California, Riverside, Riverside, CA
-

General Poster Session

Ventana Room

Monday & Tuesday, 9:00 a.m. – 5:00 p.m.

- 12PO A NEW MICROBIAL INSECTICIDE FROM *CHROMOBACTERIUM SUBTSUGAE***, L. Chanbusarakum, L. Fernandez, E. Tan, R. Asolkar, D. Wallner, H. Huang, M. Koivunen, P. Marrone, Marrone Organic Innovations, Inc., Davis, California; lchan@marroneorganics.com
- 13PO EYE DEVELOPMENT IN THE TERMITE *INCISITERMES MINOR* - MORPHOLOGY AND ELECTROPHYSIOLOGY**, G. Aquino¹, A. M. Baleilevuka¹, H. Bream¹, E. Ediger¹, T. Heumier², J. Ziesmann¹; ¹Dept. of Biology and Chemistry, Azusa Pacific University, Azusa, CA. ²Dept. of Mathematics and Physics, Azusa Pacific University, Azusa, CA.
- 14PO LYGUS BUG RESURGENCE FOLLOWING PYRETHROID TREATMENTS TO ALFALFA GROWN FOR SEED**, E. Natwick and M. Lopez, University of California ANR Cooperative Extension, UC Desert Research and Extension Center, Holtville, CA
- 15PO RICE WATER WEEVIL SAMPLING FOR COMMERCIAL MONITORING: POSSIBILITIES AND CHALLENGES**, Luis Espino, University of California Cooperative Extension, Colusa, CA
- 16PO CROP CULTURAL MANAGEMENT OF ONION THRIPS AND IRIS YELLOW SPOT VIRUS**, Diane Alston, Jennifer Reeve, Daniel Drost, and C. Kent Evans, Utah State University, Logan, UT
- 17PO CHARACTERIZATION OF MICROENCAPSULATED PEAR ESTER SPRAY ADJUVANT, AND BEHAVIOR EVOKED IN CODLING MOTH NEONATE LARVAE**, Douglas M. Light¹, John J. Beck¹, James L. Baker¹, Janet Haworth²; ¹USDA-ARS, Western Regional Research Center, Albany, CA, ² Trece, Inc., Adair, OK
- 18PO IDENTIFICATION OF NATURAL ATTRACTANTS OF GUAVA WEEVIL IN AGUASCALIENTES, MEXICO**, Felipe Tafoya¹, Mercedes G. Lopez², Catarino Perales-Segovia³, Ernesto Gonzalez-Gaona⁴; ¹Centro de Ciencias Básicas, Universidad Autónoma de Aguascalientes, Aguascalientes, México, ²Centro de Investigación y Estudios Avanzados del IPN, Guanajuato, México, ³ Instituto Tecnológico El Llano Aguascalientes, Aguascalientes, México, ⁴Instituto Nacional de Investigaciones Forestales, Aguascalientes, México

- 19PO LABORATORY AND FIELD EVALUATION OF SYNTHETIC FEMALE-PRODUCED SEX PHEROMONE FOR *PRIONUS CALIFORNICUS* (CERAMBYDIDAE: PRIONINAE)**, J. Barbour¹, J. Millar^{2,3}, J. Rodstein³, J. McElfresh², I. Wright², K. Barbour¹, A. Ray⁴, and L. Hanks⁴; ¹University of Idaho, Southwest Idaho Research & Extension Center, Parma, ID, ²Dept. of Entomology, University of California, Riverside, CA, ³Dept. of Chemistry, University of California, Riverside, CA, ⁴Dept. of Entomology, University of Illinois at Urbana-Champaign, Urbana, IL
- 20PO FIELD CAGE EVALUATION OF TWO INTRODUCED OLIVE FRUIT FLY PARASITIDS IN CALIFORNIA**, Xin-geng Wang¹, Marshall W. Johnson¹, Kent M. Daane², Charles H. Pickett³; ¹Department of Entomology, University of California, Riverside, CA, ²Department of Environmental Science, Policy and Management, University of California, Berkeley, CA, ³Biological Control Program, California Department of Food and Agriculture, Sacramento, CA
- 21PO CONTROL OF THE INVASIVE THRIPS, *KLAMBOTHRIPS MYOPORI*, ON LANDSCAPE PLANTINGS OF *MYOPORUM* IN CALIFORNIA**, David A. Shaw and James A. Bethke, University of California Cooperative Extension, San Marcos, CA
- 22PO UNDERSTANDING THE DYNAMICS OF NEONICOTINOID ACTIVITY IN THE MANAGEMENT OF *BEMISIA TABACI* WHITEFLIES ON POINSETTIAS**, F. Byrne¹, R. Oetting², J. Bethke³, C. Green⁴, and J. Chamberlin⁴; ¹Dept. of Entomology, University of California, Riverside, CA, ²Dept. of Entomology, UGA Griffin Campus, Griffin, GA, ³University of California Cooperative Extension, San Marcos, CA, ⁴Valent USA Corporation, Snellville, GA
- 23PO TRANSITION FROM SMALL SCALE REARING TO MASS PRODUCTION OF LIGHT BROWN APPLE MOTH (*EPYPHYAS POSTVITTANA*) FOR SIT**, David Madieros and Nada Tomic-Carruthers, USDA-ARS, Albany, CA 94710
- 24PO IPM PROGRAMS IN TREE FRUIT: FROM LARGE-SCALE COMMERCIAL ORCHARDS TO SMALL-SCALE HOME ORCHARDS**, Philip VanBuskirk¹, Rick Hilton¹, Alan Knight²; ¹Oregon State University, Southern Oregon Research & Extension Center, Central Point, OR, ²USDA, Agricultural Research Service, Yakima Agricultural Research Laboratory, Wapato, WA
- 25PO STEM-SEGMENT DEVELOPMENT OF *SCHLUMBERGERA* AND *HATIORA* SPP. WHEN EXPOSED TO THE WESTERN FLOWER THRIPS**, James A. Bethke, University of California Cooperative Extension, San Marcos, CA
- 26PO DOES CONTROLLING BEET LEAFHOPPER IMPACT THE ENDANGERED BLUNT-NOSED LEOPARD LIZARD (*GAMBELIA SILA*)?** R. A. Redak, K. Campbell, and T. R. Prentice, Department of Entomology and Center for Conservation Biology, University of California, Riverside, CA

- 27PO HAZELNUT CULTIVAR SUSCEPTIBILITY TO FILBERTWORM AND SEASONAL NUT INFESTATION PATTERN IN OREGON**, Ute Chambers¹, Betsey Miller¹, Jeff Olsen² and Vaughn M. Walton¹; ¹Oregon State University, Department of Horticulture, Corvallis, OR, ²Oregon State University, Yamhill County Extension Service, McMinnville, OR
- 28PO YEAR-ROUND IPM PROGRAMS SUPPORT PEST MANAGEMENT DECISIONS FOR CALIFORNIA CROPS**, Tunyalee Martin, Barbara Ohlendorf, Jodi Azulai, Carolyn Pickel, Pete Goodell, Mary Lou Flint, and Joyce Strand, UC Statewide IPM Program, University of California, Davis, CA
- 29PO AQ6047 A UNIQUE AND IMPROVED STRAIN OF *STREPTOMYCES GALBUS* WITH INSECTICIDAL ACTIVITY**, Gerardo Bueno, Colleen Taylor, Adelina Chavez, Desmond Jimenez, Jorge Jimenez., Terri Johnson, Hong Zhu, Laura Lampa, Suzanna Stoner, and Tara Lu, AgraQuest, Inc., Davis CA
- 30PO *ALTICA LITIGATA*, A FLEA BEETLE ATTACKING NATIVE AND EXOTIC WATER PRIMOSE IN CALIFORNIA**, R. Carruthers, E. Dondley, M. Franc, and B. Grewell, USDA-ARS, Exotic and Invasive Weeds Research Unit, Albany and Davis, CA
- 31PO ALTERNATIVE PREY AND BIOLOGICAL CONTROL OF LYGUS BUGS (HEMIPTERA: MIRIDAE) IN ALFALFA SEED**, Tiecoura Traore and James D. Barbour, University of Idaho, Southwest Idaho Research Extension Center, Parma, Canyon Co., ID
- 32PO IMMUNOLABEL RETENTION BY EGG AND LARVAL STAGES OF *DIORHABDA ELONGATA* (COLEOPTERA: CHRYSOMELIDAE)**, K. C. Tonkel¹, L. Williams III¹, J. R. Hagler², and S. A. Machtley²; ¹USDA-ARS Exotic and Invasive Weeds Research Unit, Reno, NV, ²USDA-ARS Pest Management and Biological Control Research Unit, Maricopa, AZ
- 33PO A THOUSAND POINTS OF FLIES: DIGITAL PHOTO SURVEY OF CATTLE PEST FLY ABUNDANCE IN WASHINGTON**, Holly Ferguson, Doug Walsh, and Sally O'Neal, Washington State University, Irrigated Agriculture Research & Extension Center, Prosser, WA
- 34PO MONITORING OF INSECTICIDE SUSCEPTIBILITY AND RESISTANCE IN FIELD-COLLECTED STRAINS OF *BLATTELLA GERMANICA* (ORTHOPTERA: BLATTELLIDAE) IN R.O.K.**, Kyu-Sik Chang¹, Jin-Sung Jung¹, Chan Park¹, Hee-Il Lee¹, Wook-Gyo Lee¹, Dong-Kyu Lee², Yong-Joon Ahn³, E-Hyun Shin¹; ¹Division of Medical Entomology, National Institute of Health, Korea Center for Disease Control and Prevention, Seoul, Korea, ²Dept. of Health & Environment, Kosin University, Busan, Korea, ³Dept. of Agricultural Biotechnology, Seoul National University, Seoul, Korea
- 35PO INTRASPECIFIC AND INTERSPECIFIC MATE ATTRACTION IN PRAYING MANTIDS**, Kevin M. Gallego and Michael R. Maxwell, Department of Mathematics & Natural Sciences, National University, La Jolla, CA

- 36PO FITNESS ESTIMATES FOR *Lygus lineolaris* (PALISOT DE BEAUVIOS) (HETEROPTERA: MIRIDAE) ON THE NI DIET AND MODIFICATION OF THE NI DIET**, Maribel Portilla and Doug Streett, National Biological Control Laboratory, USDA-ARS, Stoneville, MS.
- 37PO MASS FITNESS ESTIMATE FOR MASS REARING *Lygus lineolaris* AND *Lygus hesperus* (HEMIPTERA: MIRIDAE) USING THE MODIFIED NI DIET**, Maribel Portilla and Doug Streett, USDA-ARS, Biological Control of Pests Research Unit, Stoneville, MS
- 38PO REQUIEM: A NOVEL PLANT EXTRACT – BASED INSECTICIDE FOR PLANT PEST MANAGEMENT**, Kris Rasmussen, Paul Walgenbach, AgraQuest, Inc., Davis, CA

Pacific Branch Mixer and President's Reception

Monday Evening, March 30

5:30 p.m. – 7:00 p.m.

William D. Evans Stern Wheeler

Linnaean Games

Monday Evening, March 30

7:30 p.m. – 9:30 p.m.

Moderator: **Michael Costello**, Cal Poly, San Luis Obispo, CA

Shell Room

Tuesday, March 31

Registration

Fover Mission Bay Ballroom A

8:00 a.m. – 4:00 p.m.

SYMPOSIUM: The Reality of Asian Citrus Psyllid and Huanglongbing

Mission Bay Ballroom A

Tuesday, 8:00 a.m. – 4:30 p.m.

Organizers and Moderators: **Kris Godfrey**, CDFA, Sacramento, CA;

Beth Grafton-Cardwell, Dept. of Entomology, University of California, Riverside, CA and **Marc Fisher**, Dow AgroSciences.

8:00 Welcome and Introduction, Kris Godfrey, CDFA, Biocontrol, Sacramento, CA

- 32 **8:05 BIOLOGY AND MANAGEMENT OF THE ASIAN CITRUS PSYLLID – THE FLORIDA EXPERIENCE**, Michael E. Rogers, Lukasz L. Stelinski and Timothy A. Ebert, Department of Entomology, University of Florida, Institute of Food and Agricultural Sciences, Citrus Research and Education Center, Lake Alfred, FL.
- 33 **8:50 BASIC HLB BIOLOGY AND FLORIDA DETECTION METHODS**, Michael S. Ireys¹ and Tim Gast²; ¹United States Sugar Corporation, Clewiston, FL., ²Southern Gardens Citrus Corporation, Clewiston, FL.
- 34 **9:30 ESTABLISHMENT AND SPREAD OF *DIAPHORINA CITRI* AND HUANGLONGBING IN FLORIDA**, Susan E. Halbert¹, Keremane L. Manjunath², and Matthew W. Brodie³; ¹Florida Department of Agriculture and Consumer Services, Division of Plant Industry, Gainesville, FL; ²USDA/ARS, National Clonal Germplasm Repository for Citrus and Dates, Riverside CA; ³Florida Department of Agriculture and Consumer Services, Division of Plant Industry, Naples, FL.
- 10:0 BREAK**
0
- 35 **10:1 ASIAN CITRUS PSYLLID STATUS IN SOUTHERN CALIFORNIA**, Brian J. Taylor, California Department of Food and Agriculture, Lemon Grove, CA5
- 36 **10:3 REGULATORY IMPACT OF ASIAN CITRUS PSYLLID (ACP) IN SOUTHERN CALIFORNIA**, Janet Taylor, California Department of Food & Agriculture, Pest Exclusion Branch, Lemon Grove, CA
- 37 **10:4 SURVEY STRATEGIES FOR ASIAN CITRUS PSYLLID IN SOUTHERN CALIFORNIA**, David Kellum, County of San Diego, Agriculture, Weights & Measures, San Diego, CA
- 38 **11:0 ASIAN CITRUS PSYLLID MANAGEMENT IN TEXAS**, Mamoudou Sétamou, Texas A&M University-Kingsville, TX
- 39 **11:3 EXPLOITING THE DYNAMICS OF NEONICOTINOID INSECTICIDE UPTAKE INTO CITRUS FOR THE EFFECTIVE MANAGEMENT OF ACP**, Frank Byrne, Dept of Entomology, UC Riverside, CA
- 12:0 LUNCH**
0
- 40 **1:30 DETECTION OF HUANGLONGBING BACTERIA IN PSYLLIDS (*DIAPHORINA CITRI*) AND ITS IMPORTANCE IN DISEASE MANAGEMENT**, Keremane Manjunath¹, Susan Halbert², Chandrika Ramadugu¹ and Richard Lee¹; USDA ARS, National Clonal Germplasm Repository for Citrus and Dates, Riverside, CA; ² Florida Department of Agriculture and Consumer Services, Division of Plant Industry, Gainesville, FL
- 41 **2:00 INDUSTRY JOINS BATTLE AGAINST ASIAN CITRUS PSYLLID (ACP) AND HUANGLONGBING (HLB)**, MaryLou Polek, California Citrus Research Board, Visalia, CA.

- 42 **2:30 CHEMICAL INDUSTRY RESPONSE TO PSYLLID CONTROL**, Marc Fisher, Dow AgroSciences; Mike Ansolebere, Valent USA Corporation; Ryan Bounds, Syngenta Crop Protection; Wayne Steele, DuPont Crop Protection; Ed Ishida, Bayer CropScience
- 3:15 BREAK**
- 43 **3:30 MOLECULAR- AND GENOMIC-BASED STRATEGIES TO MITIGATE THE IMPACT OF CITRUS HUANGLONGBING DISEASE**, Edwin L. Civerolo, USDA-ARS, San Joaquin Valley Agricultural Sciences Center, Parlier, CA
- 44 **4:00 THE IMPACT OF THE ASIAN CITRUS PSYLLID INVASION ON CITRUS IPM**, E.E. Grafton-Cardwell, Department of Entomology, University of California, Riverside CA
- 4:30 Closing remarks and Q&A Period**

SYMPOSIUM: 50 Years of the Integrated Control Concept

Del Mar Room

Tuesday, 8:00 a.m. – 12:00 p.m.

Organizers and Moderators: **Steve Castle**, USDA-ARS, Phoenix, AZ and **Walt Bentley**, University of California, Kearney Agricultural Center, Parlier, CA

- 8:00 Welcome and Introduction**, Steve Castle, USDA-ARS, Phoenix, AZ
- 45 **8:05 THE INTEGRATED CONTROL CONCEPT FROM THE VERN STERN PERSPECTIVE**, Nick C. Toscano, University of California, Department of Entomology, Riverside, CA
- 46 **8:25 THE CALIFORNIA PEAR IPM PROGRAM—A 50 YEAR HISTORY OF PESTICIDE USE AND TRANSITION TO BIOLOGICALLY INTENSIVE IPM**, Patrick W. Weddle, Pacific Biocontrol Corporation, Placerville, CA
- 47 **8:45 THE EVOLUTION AND CURRENT STATUS OF INTEGRATED PEST MANAGEMENT IN CALIFORNIA CITRUS**, Bob Luck, Department of Entomology, University of California, Riverside
- 48 **9:05 50 YEARS OF INTEGRATED CONTROL CONCEPT: THE ROLE OF LANDSCAPE IN IPM**, Peter B. Goodell, UC CE Statewide IPM Program, Kearney Agricultural Center, Parlier, CA
- 49 **9:25 ‘INTEGRATED CONTROL’, MEASURING POPULATIONS AND PREDICTING OUTCOMES IN THE COTTON WHITEFLY SYSTEM**, Steven E. Naranjo¹ & Peter C. Ellsworth², ¹USDA-ARS, Arid-Land Agricultural Research Center, Maricopa, AZ, ²Department of Entomology, Maricopa Agricultural Center, University of Arizona, Maricopa, AZ

50 9:45 'INTEGRATED CONTROL', CHEMICAL AND BIOLOGICAL COMPATIBILITY IN THE COTTON WHITEFLY SYSTEM, Peter C. Ellsworth¹ & Steven E. Naranjo², ¹Department of Entomology, Maricopa Agricultural Center, University of Arizona, Maricopa, AZ, ²USDA-ARS, Arid-Land Agricultural Research Center, Maricopa, AZ

10:0 BREAK

5

51 10:2 IPM FOR FRESH-MARKET VEGETABLES IN THE DESERT
5 SOUTHWEST: ARE WE THERE YET? John C. Palumbo, University of Arizona, Department of Entomology, Yuma Agricultural Center, Yuma, AZ

52 10:4 THE INTEGRATED CONTROL CONCEPT AND MODERN DAY
5 INTEGRATED PEST MANAGEMENT: A CASE STUDY IN TABLE GRAPES, Walt Bentley, University of California Cooperative Extension, Kearny Agricultural Center, Parlier, CA

53 11:0 THE CHALLENGES OF IMPLEMENTING IPM INTO
5 TRADITIONALLY PESTICIDE-INTENSIVE VEGETABLE CROP SYSTEMS, Marshall W. Johnson, Department of Entomology, University of California, Riverside, CA

54 11:2 INTEGRATED CONTROL: THE PRECURSOR FOR INTEGRATED
5 PEST MANAGEMENT AND INTEGRATED BIODIVERSITY MANAGEMENT, L. E. Ehler, Department of Entomology, University of California, Davis, CA

11:4 Closing remarks and wrap up.

5



Tuesday, March 31

AWARDS LUNCHEON

12:00-1:30 p.m.

Mission Bay Ballroom BCD



**SYMPOSIUM: IPM In Perennial Cropping Systems:
A Preferred Future Based On a Sound Past**

Del Mar Room

Tuesday, 1:30 p.m. – 5:00 p.m.

Organizer and Moderator: **Ashfaq Sial** and **Jay Brunner**, Dept. of Entomology, Washington State University, Pullman, WA

1:30 Welcome and Introduction, Jay Brunner, Dept. of Entomology, Washington State University, Pullman, WA.

- 55 1:35 **SAMPLING AND ACTION THRESHOLDS IN PERENNIAL CROPS IPM, MYTH AND REALITY**, Frank G. Zalom, Department of Entomology, University of California, Davis CA
- 56 1:55 **LANDSCAPE LEVEL APPROACHES TO IPM: MATCHING MANAGEMENT TO SCALE**, Stephen C. Welter¹, Kent M. Daane¹, and John E. Dunley², ¹Department of Environmental Science, Policy and Management, University of California, Berkeley CA; ²Department of Entomology, Washington State University, Tree Fruit Research and Extension Center, Wenatchee WA
- 57 2:15 **EVOLUTION OF IPM ON AVOCADOS IN CALIFORNIA IN THE CONTEXT OF INVASIVE ARTHROPODS**, Joseph G. Morse, Mark S. Hoddle, and R. Stouthamer, Department of Entomology, University of California, Riverside CA
- 58 2:35 **BIOLOGICAL CONTROL AS A COMPONENT OF IPM IN PERENNIAL CROPS**, Nicolas J. Mills, Department of Environmental Science, Policy and Management, University of California, Berkeley, CA 94720
- 2:55 **BREAK**
- 59 3:15 **MATING DISRUPTION AS A CENTRAL COMPONENT OF IPM PROGRAMS IN PERENNIAL CROPS**, Larry J. Gut, Department of Entomology, Michigan State University, East Lansing MI
- 60 3:35 **NOVEL REDUCED RISK INSECTICIDES AS A COMPONENT OF IPM PROGRAMS FOR MAJOR PESTS OF PERENNIAL CROPS**, Jay F. Brunner, Mike D. Doerr, and Keith Granger, Washington State University, Tree Fruit Research and Extension Center, Wenatchee WA
- 61 3:55 **IMPACT OF NOVEL REDUCED RISK INSECTICIDES ON NON-TARGET ARTHROPODS IN PERENNIAL CROPPING SYSTEMS**, Peter W. Shearer, Oregon State University, Mid-Columbia Agricultural Research & Extension Center, Hood River, OR
- 62 4:15 **INSECTICIDE RESISTANCE: A MAJOR OBSTACLE FOR THE SUCCESS OF IPM PROGRAMS IN PERENNIAL CROPS**, Ashfaq A. Sial, Jay F. Brunner, John E. Dunley, and Michael D. Doerr, Department of Entomology, Washington State University, Tree Fruit Research and Extension Center, Wenatchee WA 98801
- 63 4:35 **EVOLUTION AND IMPLEMENTATION OF DECISION SUPPORT SYSTEMS IN PERENNIAL CROPS**, Vincent P. Jones, Jay F. Brunner, Gary G. Grove², Brad Petit, Jerry Tangren, and Wendy E. Jones, Washington State University, Tree Fruit Research and Extension Center, WA and ²Irrigated Agriculture Research and Extension Center, Prosser, WA
- 4:55 **Closing remarks and wrap up.**

10-Minute Oral Presentation Session

Shell Room

Tuesday, 8:00 a.m. – 4:00 p.m.

Morning Session Moderators: **Janet Haworth**, Trece Corporation, Tucson, AZ and **Paul Walgenbach**, AgraQuest, Davis, CA

- 64 8:00 BEHAVIORAL RESISTANCE EXHIBITED BY HOUSE FLIES TO PESTICIDES**, A. Gerry, University of California at Riverside, Department of Entomology, Riverside, CA 92521
- 65 8:12 A COMPARISON OF DEMAND" CS, TERMIDOR", TRANSPORT" GHP FOR THE URBAN PEST MANAGEMENT OF ARGENTINE ANTS (Hymenoptera: Formicidae) IN SOUTHERN CALIFORNIA**, Gail M. Getty¹, Robin Taylor¹, Sara Moore¹, Lynette Yang¹, Shawn Leighton¹, Dean Wiley², Curtis Good², Vernard R. Lewis, ¹; ¹University of California, Berkeley, Richmond, CA, ²Newport Exterminating, Irvine, CA
- 66 8:24 RECRUIT HD - A PARADIGM SHIFT IN THE EVOLUTION OF TERMITE BAIT TECHNOLOGY**, M. Lees¹, M. Tolley², J. DeMark³, J. Eger⁴, M. Messenger⁵, E. Thoms⁶, M. Fisher⁷, M. Melichar², R. Hamm², J. McKern⁸; ¹Dow AgroSciences, Granite Bay, CA, ²Dow AgroSciences, Indianapolis, IN, ³Dow AgroSciences, Fayetteville, AR, ⁴Dow AgroSciences, Tampa, FL, ⁵USDA-ARS, Beltsville, MD, ⁶Dow AgroSciences, Gainesville, FL, ⁷Dow AgroSciences, Fresno, CA, ⁸Dow AgroSciences, Christiansburg, VA
- 67 8:36 UNBIASED PISTACHIO PREFERENCE BY THE NAVEL ORANGEWORM**, Zain Syed¹, Gabriel M. Leal¹, Brad Higbee², Walter S. Leal¹; ¹Department of Entomology, University of California, Davis CA, ²Paramount Farming Company, Bakersfield CA
- 68 8:48 AMBIENT ALMOND VOLATILES FROM GEOGRAPHICALLY DIFFERENT ORCHARDS AND THEIR RELATIONSHIP TO NAVEL ORANGEWORM**, John J. Beck¹, Glory B. Merrill¹, Wai S. Gee¹, Bradley S. Higbee², Douglas M. Light¹; ¹Plant Mycotoxin Research, USDA-ARS, WRRRC, Albany, CA, ²Paramount Farming Company, Bakersfield, CA
- 69 9:00 KONTOS GREENHOUSE AND NURSERY INSECTICIDE/MITICIDE: PESTS CONTROLLED AND STRATEGIES FOR USE**, R. Royalty, T. Macom, J. Dobbs, J. Michel, R. Lindquist, Bayer Environmental Science, Research Triangle Park, NC
- 70 9:12 NON-TARGET PLANT USE BY LARINUS CURTUS: HOST EXPANSION OR OPPORTUNISTIC BEHAVIOR BY THISTLE BIOCONTROL AGENT**, S. Clement USDA-ARS, 59 Johnson Hall, Washington State University, Pullman, WA

- 71 **9:24 APHIDS ASSOCIATED WITH RHUBARB IN ALASKA**, Alberto Pantoja¹, Aaron M. Hagerty¹, Susan Y. Emmert¹, Joseph C. Kuhl¹, Keith Pike,² Juan M. Alvarez³, and Andrew Jensen⁴; ¹ United States Department of Agriculture, Agricultural Research Service, Subarctic Agricultural Research Unit, Fairbanks, AK, ² Washington State University, Irrigated Agriculture Research and Extension Center, Prosser, WA, ³ University of Idaho, Aberdeen Research and Extension Center, Aberdeen, ID, ⁴ Washington State Potato Commission, Moses Lake, WA
- 72 **9:36 IMPROVED FRUIT FLY DETECTION METHODS WITH FARMA TECH SOLID MALE LURE AND INSECTICIDE DISPENSERS**, Roger I. Vargas¹, Ronald F. L. Mau², Jaime C. Piñero², John D. Stark³, Peter Cook⁴; ¹U.S. Pacific Basin Agricultural Research Center, USDA-ARS, Hilo, HI, ²University of Hawaii at Manoa, Dept. of Plant and Environmental Protection Sciences, Honolulu, HI, ³ Washington State University, Puyallup Research and Extension Center, Puyallup, WA, ⁴ Farma Tech International, North Bend, Washington
- 73 **9:48 NON-COMMERCIAL PRACTICES TO CONTROL CITRUS THRIPS IN CALIFORNIA BLUEBERRIES**, Stephanie M. Rill and David R. Haviland, University of California Cooperative Extension, Kern Co., Bakersfield, CA
- 10:0 BREAK**
- 0**
- 74 **10:1 EVALUATIONS OF POST HARVEST TREATMENTS FOR VINE 2 MEALYBUG IN TABLE GRAPES**, N. Hernandez, D. Haviland, J. Hashim-Buckey, S.Rill, University of California Cooperative Extension, Kern Co., Bakersfield, CA
- 75 **10:2 NUTRITIONAL ECOLOGY AND FORAGING BEHAVIOR OF 4 MANDUCA SEXTA**, M.A. Sorensen, S.N. Thompson, R.A. Redak, Dept. of Entomology, University of California, Riverside, CA
- 76 **10:3 2008 FIELD RELEASES OF PSYTTALIA CF. CONCOLOR FOR 6 BIOLOGICAL CONTROL OF OLIVE FRUIT FLY IN CALIFORNIA**, Victoria Y. Yokoyama¹, Pedro A. Rendón², and Carlos E. Cáceres²; ¹USDA-ARS-SJVASC, Parlier, CA, ²USDA-APHIS-PPQ-CPHST, Guatemala City, Guatemala
- 77 **10:4 ENHANCING BIOLOGICAL CONTROL OF RUST MITES IN 8 VINEYARDS**, Vaughn M. Walton¹, Amy Dreves², Angela Gadino¹; ¹Department of Horticulture, Oregon State University, Corvallis, OR, ²Crop and Soil Science Department, Oregon State University, Corvallis OR
- 78 **11:0 NOW EGG TRAPS: EFFECT OF BAIT ATTRACTIVENESS ON 0 DETECTION AND PRECISION IN THE FIELD**, Charles S. Burks¹, Bradley S. Higbee²; ¹USDA-ARS, San Joaquin Valley Agricultural Sciences Center, Parlier, CA, ²Paramount Farming Company, Bakersfield, CA

- 79 11:1 SUMMER SURVIVAL OF ADULT AND IMMATURE OLIVE FRUIT
2 FLY IN THE SAN JOAQUIN VALLEY, CALIFORNIA**, Hannah Nadel¹,
Marshall W. Johnson¹, Kent M. Daane² and Xing-geng Wang¹; ¹ Department of
Entomology, University of California, Riverside, CA, ² Department of
Environmental Science, Policy, and Management, University of California,
Berkeley, CA
- 80 11:2 WASHINGTON STATE APPLE PEST MANAGEMENT TRANSITION
4 PROJECT**, Keith R. Granger and Jay F. Brunner, Washington State University,
Tree Fruit Research and Extension Center, Wenatchee, WA
- 81 11:3 SPIDER COLONIZATION OF CALIFORNIA VINEYARDS: THE ROLE
6 OF AERIAL VERSUS GROUND DISPERSAL**, Brian Hogg and Kent Daane,
Division of Organisms and the Environment, University of California, Berkeley,
CA
- 82 11:4 INNOVATIVE GOVERNANCE FOR SUSTAINABLE TRANSITIONS TO
8 NOVEL IPM AND GM TECHNOLOGIES: FROM AUTHORITY TO
LEGITIMACY**, Dan Badulescu, Murray Isman, Zhili Jiang, Saber Miresmailli,
Centre for Plant Research, Faculty of Land and Food Systems, University of
British Columbia, Vancouver, BC Canada
- 12:0 LUNCH
0**
- Afternoon Session Moderators: **Allison Watson**, Ninchino America, Hood
River, OR and **Pedro Hernandez**, Ninchino America, Fresno, CA
- 83 1:36 REFINEMENT OF IPM PROGRAMS FOR VINE MEALYBUG IN SAN
JOAQUIN VALLEY TABLE GRAPES**, D. Haviland, J. Hashim-Buckey, and
S. Rill, University of California Cooperative Extension, Bakersfield, CA
- 84 1:48 THE DEVELOPMENT AND REGISTRATION OF LORSBAN®
ADVANCED A NEW AND INNOVATIVE PRODUCT FOR PEST
CONTROL**, Boris A. Castro¹, Luis E. Gomez², Barat Bisabri³, Ray E. Boucher²,
Brian L. Bret⁴, Brian E. Timmerman²; ¹Dow AgroSciences, Fresno, CA; ²Dow
AgroSciences, Indianapolis, IN; ³Dow AgroSciences, Orinda, CA; ⁴Dow
AgroSciences, Sacramento, CA.
- 85 2:00 RE-ESTABLISHING DIAMONDBACK MOTH SUSCEPTIBILITY TO
THE SPINOSYNS IN COASTAL CALIFORNIA: A SUCCESS STORY**,
Jesse M. Richardson¹, James I. Matsuyama², Barat Bisabri³, Anthony M.
Shelton⁴ and James E. Dripps⁵; ¹Dow AgroSciences, Hesperia, CA, ²Dow
AgroSciences, Ventura, CA, ³Dow AgroSciences, Orinda, CA, ⁴Cornell
University, NYS Agric. Expt. Station, Geneva, NY, ⁵Dow AgroSciences,
Indianapolis, IN
- 86 2:12 THE OFTEN-OVERLOOKED INVERTEBRATES: MONITORING AND
MANAGING SLUGS IN GRASSES GROWN FOR SEED IN OREGON**,
Amy J. Dreves¹ and Glenn C. Fisher¹; Oregon State University, Dept. of Crop and
Soil Science, Corvallis OR

- 87 **2:24 VECTOR WITHIN-HOST FEEDING PREFERENCE MEDIATES TRANSMISSION OF A HETEROGENEOUSLY DISTRIBUTED PATHOGEN**, M. Daugherty, J. Lopes, R. Almeida, University of California, Berkeley, CA
- 88 **2:36 ARTHROPOD RESPONSE TO RESIDUE REMOVAL SYSTEMS IN DRYLAND KENTUCKY BLUEGRASS SEED FIELDS OF N. IDAHO**, T. Hatten, R. Biggam, J. Johnson-Maynard, D. Thill, K. Umiker, J. Reed, B. Shaffii and J. McCaffrey, University of Idaho, Department of Plant, Soil and Entomological Sciences, Moscow, ID
- 89 **2:48 IMPROVING ALMOND MUMMY SANITATION FOR ENHANCED CONTROL OF NAVEL ORANGEWORM**, Elizabeth A. Boyd¹, Justin E. Nay², Kent M. Daane³; ¹California State University - Chico, College of Agriculture, Chico, CA, ²Integral Ag. Inc., Chico, CA, ³University of California, ESPM, Kearney Agricultural Center, Parlier, CA
- 3:00 BREAK**
- 90 **3:12 ACUTE TOXICITY OF ADULT CODLING MOTH WITH CHLORPYRIFOS, ACETAMIPRID AND LAMBDA-CYHALOTHRIN APPLIED IN ACIDIC SOLUTIONS**, R. Van Steenwyk, Dept. of E.S.P.M., University of California, Berkeley
- 91 **3:24 LIFE HISTORIES OF CASCADIA BUTTERFLIES**, David G. James¹ and David Nunnallee²; ¹Washington State University, Prosser, WA, ²Sammamish, WA
- 92 **3:36 REQUIEM: A NOVEL PLANT-EXTRACT-BASED INSECTICIDE FOR PEST MANAGEMEN**, P. Walgenbach, K. Rasmussen, AgraQuest, Inc., Davis, CA
- 93 **3:48 FIELD EFFICACY OF A NEW NORTH AMERICAN METARHIZUM ANISOPLIAE FOR GRASSHOPPERS ON RANGELAND**, Scott P. Schell¹, Stefan T. Jaronski², Alexandre V. Latchininsky¹; ¹Renewable Resources, Entomology, Dept., Laramie, WY, ²USDA ARS NPARL, Sidney MT
- 94 **4:00 TESTING HABITAT PLANTS AS SOURCES OF ALTERNATIVE APHID PREY FOR SYRPHID FLIES**, Erik H. Nelson, Kent M. Daane, and Nick J. Mills, Department of Environmental Science, Policy, and Management, University of California, Berkeley CA
- 95 **4:12 INVASIVE PESTS OF HYBRID POPLAR PLANTATIONS**, John J. Brown¹, Andrew Rodstrom¹, Eugene Hannon², Neal Kittelson³, Douglas Walsh¹; ¹ Washington State University, Department of Entomology, Pullman, WA, ² University of Arizona, Tucson, AZ, ³ Post Falls, ID
- 96 **4:24 MALE CHOICE IN SEXUALLY CANNIBALISTIC PRAYING MANTIDS: MALES PREFER WELL-FED FEMALES**, M.R. Maxwell, K.M. Gallego, Department of Mathematics & Natural Sciences, National University, La Jolla, CA

- 97 4:36 **PHYLOGENY OF THE CHALCIDIDAE AND THE PROBLEMATIC PLACEMENT OF THE SUBFAMILY DIRHININAE**, Andrew Ernst, John Heraty, University of California Riverside, Department of Entomology, Riverside, Riverside Ca
- 98 4:48 **“VOLIAM FLEXI”: A NEW BROAD SPECTRUM INSECTICIDE FROM SYNGENTA CROP PROTECTION**, Christopher Clemens¹ and Caydee Savinelli²; ¹Syngenta Crop Protection, Richland, WA, ² Greensboro, NC
- 5:00 **ADJOURN**

Tuesday, March 31
STUDENT EMPLOYMENT SEMINAR “INTERVIEW IDOL”
5:00-7:00 P.M. -- *Shell Room*

PHOTO SALON
7:00-8:00 p.m. -- *Del Mar Room*

Wednesday, April 1

Final Business Meeting
7:30 a.m. – 8:30 a.m.
Mission Bay Ballroom E

- 7:30 **Call To Order,**
Walter Bentley, President, Pacific Branch, Entomological Society of America.
- 8:30 **Adjourn.**
-

SYMPOSIUM: Entomology and Fly Fishing:
The Fusion of Art, Science and Education
Shell Room

Wednesday, 8:30 a.m. – 11:55 noon

Organizer and Moderator: **Michael Parella**, Dept. of Entomology, University of California, Davis and **Mark Shelton**, Cal Poly, San Luis Obispo, CA

- 8:30 **WELCOME AND INTRODUCTION**, Michael Parella, Department of Entomology, University of California, Davis
- 99 8:35 **THE EVOLUTION OF STREAMER FISHING: FROM ALEXANDRA TO GUMMY MINNOWS**, Mark Shelton, College of Agriculture, Food and Environmental Sciences, Cal Poly State University San Luis Obispo, CA

- 100 9:00 THE INTELLECTUAL BORDERLAND: WHERE SCIENCE, ART, EDUCATION AND FLY FISHING MEET**, Diane E. Ullman, Department of Entomology, UC Davis Art/Science Fusion Program, University of California, Davis, CA
- 101 9:25 THE ‘BUGWAN’ DEBUGS ENTOMOLOGY FOR THE FLY-FISHER**, Rick Hafele, Bugwan University, Bug U Center for Catch & Release, Gresham, Oregon
- 10:25 Break**
- 102 10:40 FISH AND MIDGES**, Peter S. Cranston, Entomology Department, University of California, Davis, CA
- 103 11:05 THE CHALLENGE OF STEELHEAD ON A FLY: UNDERSTANDING BIOLOGY AND DIET**, John E. Dunley, Department of Entomology, Tree Fruit Research and Extension Center, Washington State University, Wenatchee, WA
- 104 11:30 DEVELOPMENT OF ENT 198: ENTOMOLOGY FOR THE FLY-FISHER**, Michael P. Parrella, Department of Entomology, University of California, Davis
- 11:55 GENERAL REMARKS AND WRAP UP**, Mark Shelton, College of Agriculture, Food and Environmental Sciences, Cal Poly State University San Luis Obispo, CA

SYMPOSIUM: Insect-Vector Interactions: From the Molecule to the Field And Beyond

Marina Room

Wednesday, 8:30 a.m. – 11:35 p.m.

Organizer and Moderator: **Juan Manuel Alvarez**, University of Idaho

- 8:30 Welcome and Introduction**, Juan Manuel Alvarez, University of Idaho
- 105 8:35 A NEW LIBERIBACTER SPECIES, CA. LIBERIBACTER PSYLLAUROUS, AND ITS ASSOCIATION WITH THE TOMATO PSYLLID AND ITS HOST PLANTS TOMATO AND POTATO**, Allison Hansen, University of California, Riverside
- 106 8:55 APHID AND VIRUS PROTEINS THAT CONTRIBUTE TO THE REGULATION OF YELLOW DWARF VIRUS TRANSMISSION**, Stewart Gray, USDA-ARS and Department of Plant Pathology, Cornell University, Ithaca, New York
- 107 9:15 HOW DO MEALYBUGS TRANSMIT GRAPEVINE LEAFROLL-ASSOCIATED VIRUSES?** Rodrigo Almeida, University of California, Berkeley

108 9:35 INFLUENCE OF TRANSGENIC RESISTANCE TO BARLEY YELLOW DWARF VIRUS IN WHEAT ON THE BIOLOGY OF THE BIRD CHERRY-OAT APHID, Nilsa Bosque-Perez, K.J. Medina-Ortega, E.S. Jimenez-Martinez, and S.D. Eigenbrode, Dept. of Plant, Soil and Entomological Sciences, University of Idaho, Moscow, ID

9:55 BREAK

109 10:1 SPREAD OF INSECT-VECTORED PLANT PATHOGENS: USE OF SIMULATION MODELS TO ASSESS THE ROLE OF ECOLOGICAL AND OPERATIONAL FACTORS, Mark S. Sisterson, USDA-ARS, San Joaquin Valley Agricultural Science Center, Parlier, CA

110 10:3 USING AERIAL IMAGERY TO IDENTIFY VINEYARDS FOR PIERCE'S DISEASE SAMPLING, Thomas Perring and Jung Joon Park, University of California, Riverside

111 10:5 EFFECTS OF VIRAL INFECTIONS IN THE BIOLOGY OF APHID VECTORS, Juan Manuel Alvarez, University of Idaho

112 11:1 CHEMICAL MANAGEMENT OF CUCURBIT YELLOW STUNTING DISORDER VIRUS ON DESERT MELONS, John C. Palumbo¹ and Steven J. Castle²; ¹University of Arizona, Department of Entomology, Yuma Agricultural Center, Yuma, AZ, ²USDA-ARS, Arid-Land Agricultural Research Center, Maricopa, AZ

11:3 ADJOURN
5

SYMPOSIUM: Invading Arthropods In Urban And Landscape Environments

Del Mar Room

Wednesday, 8:30 a.m. – 10:15 p.m.

Organizer and Moderator: **Mary Louise Flint**, University of California Statewide IPM Program and Department of Entomology, Davis, CA 95616

8:30 Welcome and Introduction, Moderator, Mary Louise Flint, University of California Statewide IPM Program and Department of Entomology, Davis, CA

113 8:35 RECENT INVADERS ON LANDSCAPE ORNAMENTALS IN SOUTHERN CALIFORNIA, John Kabashima and Timothy Paine, University of California Cooperative Extension, Costa Mesa, CA and University of California at Riverside, Dept. of Entomology, Riverside, CA

114 9:10 THE IMPACT OF INVASIVE ORGANISMS ON HARDWOODS IN CALIFORNIA URBAN LANDSCAPES WITH EMPHASIS ON THE GOLDSPOTTED OAK BORER, Steven J. Seybold¹, Tom W. Coleman², and Andrew D. Graves³; ¹Chemical Ecology of Forest Insects, USDA Forest Service, Pacific Southwest Research Station, Davis, CA; ²USDA Forest Service, Forest Health Protection, San Bernardino, CA; ³Department of Plant Pathology, UC-Davis, Davis, CA

115 9:45 INVASIVES IN LANDSCAPES AND URBAN AREAS OF THE PACIFIC NORTHWEST, Robin Rosetta, Oregon State University, North Willamette Research and Extension Center, Aurora, OR

10:2 BREAK

0

116 10:3 RED IMPORTED FIRE ANT: STATUS OF ITS INVASION IN CALIFORNIA, Les Greenberg, University of California, Department of Entomology, Riverside, CA

117 11:1 CDFA'S PROGRAMS TO DETECT AND MANAGE INVASIVE INSECTS IN LANDSCAPES AND URBAN AREAS, Kris Godfrey, CDFA, Biological Control Program, Sacramento, CA

11:4 ADJOURN

5

AUTHOR INDEX

Papers/Symposia

Senior Author	Paper #	Type	Time
Aldrich, Patrick R.	3S	SYMP, S	M, 2:30 p.m.
Almeida, Rodrigo	107	SYMP	W, 9:15 a.m.
Alvarez, Juan Manuel	111	SYMP	W, 10:55 a.m.
Badulescu, Dan	82	P	T, 11:48 a.m.
Beck J.	68	P	T, 8:48 a.m.
Beck, John J.	19	SYMP	M, 4:45 p.m.
Bentley, Walter J.	52	SYMP	T, 10:25 a.m.
Bosque-Perez. Nilsa	108	SYMP	W, 9:35 a.m.
Boyd, Elizabeth E.	89	P	T, 2:48 p.m.
Brown, John j.	95	P	T, 4:12 p.m.
Brunner, Jay F.	13	SYMP	M, 2:35 p.m.
Brunner, Jay F.	60	SYMP	T, 3:35 p.m.
Burks, C.S.	78	P	T, 11:00 a.m.
Byers, John A.	12	SYMP	M, 2:15 p.m.
Byrne, Frank	39	SYMP	T, 11:30 a.m.
Carde, Ring T.	10	SYMP	M, 1:35 p.m.
Castro, B.	84	P	T, 1:48 p.m.
Civerolo, Edwin	43	SYMP	T, 3:30 p.m.
Clemens, Christopher	98	P	T, 4:48 p.m.
Clement, S.	70	P	T, 9:12 a.m.
Cranston, Peter S.	102	SYMP	W., 10:40 a.m.
Daane, Kent M.	56	SYMP	T, 1:55 p.m.
Daugherty, M.	87	P	T, 2:24 p.m.

Senior Author	Paper #	Type	Time
Dreves, A.J.	86	P	T, 2:12 p.m.
Dunley, John E.	103	SYMP	W, 11:05 a.m.
Ehler, L.E.	54	SYMP	T, 11:05 a.m.
Eiben, Jesse	8S	SYMP, S	M, 4:20 p.m.
Ellsworth, Peter C.	50	SYMP	T, 9:25 a.m.
Ernst, Andrew	97	P	T, 4:36 p.m.
Fisher, Marc	42	SYMP	T, 2:30 p.m.
Gerry, A.	64	P	T, 8:00 a.m.
Getty, Gail M.	65	P	T, 8:12 a.m.
Gillette, N.E.	16	SYMP	M, 3:45 p.m.
Godfrey, Kris	117	SYMP	W, 10:55 a.m.
Goodell, Peter B.	48	SYMP	T, 8:45 a.m.
Goodman, Kari R.	2S	SYMP, S	M, 2:00 p.m.
Grafton-Cardwell, E.E.	44	SYMP	T, 4:00 p.m.
Granger, K.	80	P	T, 11:24 a.m.
Gray, Stewart	106	SYMP	W, 8:55 a.m.
Greenberg, Les	116	SYMP	W, 10:20 a.m.
Gut, Larry J.	59	SYMP	T, 3:15 p.m.
Haines, William P.	9S	SYMP, S	M, 4:40 p.m.
Halbert, Susan E.	34	SYMP	T, 9:30 a.m.
Hansen, Allison	6S	SYMP, S	M, 3:40 p.m.
Hansen, Allison	105	SYMP	W, 8:35 a.m.
Hatten, T.	88	P	T, 2:36 p.m.
Haviland, D.	83	P	T, 1:36 p.m.
Hefele, Rick	101	SYMP	W, 9:25 a.m.
Hernandez, N.	74	P	T, 10:12 a.m.
Hogg, B.	81	P	T, 11:36 a.m.
Irey, Michael S.	33	SYMP	T, 8:50 a.m.
Isman, Murray B.	17	SYMP	M, 4:05 p.m.
James, David	18	SYMP	M, 4:25 p.m.
James, David G.	91	P	T, 3:24 p.m.
Johnson, Marshall W.	53	SYMP	T, 10:45 a.m.
Jones, Vincent P.	63	SYMP	T, 4:35 p.m.
Kabashima, John	113	SYMP	W, 8:35 a.m.
Kellum, David	37	SYMP	T, 10:40 a.m.
Kneeland, A.	21S	SP	M, 1:42 p.m.
Leal, Walter S.	11	SYMP	M, 1:55 p.m.
Lees, M.	66	P	T, 8:24 a.m.
Luck, Bob	47	SYMP	T, 8:25 a.m.
Lura, T.	23S	SP	M, 2:06 p.m.
Manjunath, Keremane	40	SYMP	T, 1:30 a.m.
Maxwell, M.R.	96	P	T, 4:24 p.m.
Medeiros, Matthew J.	1S	SYMP, S	M, 1:40 p.m.

Senior Author	Paper #	Type	Time
Millar, Jocelyn G.	15	SYMP	M, 3:15 p.m.
Mills, Nicolas J.	58	SYMP	T, 2:35 p.m.
Morse, Joseph G.	57	SYMP	T, 2:15 p.m.
Nadel, Hannah	79	P	T, 11:12 a.m.
Naranjo, Steven E.	49	SYMP	T, 9:05 a.m.
Nelson, Erik H.	94	P	T, 4:00 p.m.
Palumbo, John C.	51	SYMP	T, 9:45 a.m.
Palumbo, John C.	112	SYMP	W, 11:15 a.m.
Pantoja, Alberto	71	P	T, 9:24 a.m.
Parrella, Michael P.	104	SYMP	W, 11:30 a.m.
Pedersen, A.	22S	SP	M, 1:54 p.m.
Perring, Thomas	110	SYMP	W, 10:35 a.m.
Polek, MaryLou	41	SYMP	T, 2:00 p.m.
Richardson, J.	85	P	T, 2:00 p.m.
Rill, W.	73	P	T, 9:48 a.m.
Rogers, Michael E.	32	SYMP	T, 8:05 a.m.
Rosetta, Robin	115	SYMP	W, 9:45 a.m.
Royalty, R.	69	P	T, 9:00 a.m.
Schell, Scott P.	93	P	T, 3:48 p.m.
Scherr, M.	31S	SP	M, 4:06 p.m.
Schoville, Sean	5S	SYMP, S	M, 3:20 p.m.
Setamou, Mamoudou	38	SYMP	T, 11:00 a.m.
Seybold, Steven J.	15	SYMP	M, 3:24 p.m.
Seybold, Steven J.	114	SYMP	W, 9:10 a.m.
Shearer, Peter W.	61	SYMP	T, 3:55 p.m.
Shelton, Mark	99	SYMP	W, 8:35 a.m.
Sial, Ashfaq A.	7S	SYMP, S	M, 4:00 p.m.
Sial, Ashfaq A.	25S	SP	M, 2:30 p.m.
Sial, Ashfaq A.	62	SYMP	T, 4:15 p.m.
Sisterson, Mark S.	109	SYMP	W., 10:15 a.m.
Sorensen, M.A.	75	P	T, 10:24 a.m.
Stevens, B.	30S	SP	M, 3:54 p.m.
Sutherland, Andrew M.	29S	SP	M, 3:42 p.m.
Syed, Z.	67	P	T, 8:36 a.m.
Symmes, E.	27S	SP	M, 3:18 p.m.
Taylor, Brian J.	35	SYMP	T, 10:15 a.m.
Taylor, Janet	36	SYMP	T, 10:30 a.m.
Toscano, Nick C.	45	SYMP	T, 8:05 a.m.
Tulgetske, G.M.	28S	SP	M, 3:30 p.m.
Ullman, Diane E.	100	SYMP	W, 9:00 a.m.
Van Steenwyk, R.	90	P	T, 3:12 p.m.
Vargas, R.	72	P	T, 9:36 a.m.
Walgenbach, P.	92	P	T, 3:36 p.m.

Senior Author	Paper #	Type	Time
Walton, Vaughn M.	77	P	T, 10:48 a.m.
Weddle, Patrick W.	46	SYMP	T, 8:05 a.m.
Why, A.M.	24S	SP	M, 2:18 p.m.
Wright, Jennifer	4S	SYMP, S	M, 2:40 p.m.
Wu, Judy Y.	20S	SP	M, 1:30 p.m.
Yokoyama, V.	76	P	T, 10:36 a.m.
Zahn, D.K.	26S	SP	M, 2:42 p.m.
Zalom, Frank	55	SYMP	T, 1:35 p.m.

Posters

Senior Author	Poster #	Type
Alston, Diane	16PO	PO
Aquino, G.	13PO	PO
Barbour, J.	19PO	PO
Bethke, James	25PO	PO
Buchman, Jeremy L.	2SPO	SPO
Bueno, Gerado	29PO	PO
Byrne, F.	22PO	PO
Carruthers, R	30PO	PO
Chambers, Ute	27PO	PO
Chanbusarakum, L.	12PO	PO
Chang, Kyu-Sik	34PO	PO
Espino, Luis	15PO	PO
Ferguson, Holly	33PO	PO
Gadino, A.	5SPO	SPO
Gallego, Kevin M.	35PO	PO
Henke, Jennifer	9SPO	SPO
Light, Douglas	17PO	PO
Madieros, David	23PO	PO
Martin, Tunyalee	28PO	PO
Millard, Mirtza R.	3SPO	SPO
Murray, Elizabeth	11SPO	SP
Natwick, E.	14PO	PO
Portilla, Maribel	36PO	PO
Portilla, Maribel	37PO	PO
Rasmussen, Kris	38PO	PO
Redak, R.A.	26PO	PO
Rodstrom, R. Andrew	6SPO	SPO
Scherr, Melissa	10SPO	SPO
Shaw, David A.	21PO	PO

Senior Author	Poster #	Type
Skyrm, Kimberly	7SPO	SPO
Smart, Matthew	1SPO	SPO
Tafoya, Felipe	18PO	PO
Tonkel, K.C.	32PO	PO
Traore, Tiecoura	31PO	PO
VanBuskirk, Philip	24PO	PO
Wampler, Elissa	4SPO	SPO
Wang, Xin-Geng	20PO	PO
Wiman, Nick	8SPO	SPO

Key to Presentation Types:

SYMP	Symposium Presentation
P	Submitted 10 minute Paper
S	Student
SP	Student Competition Paper
PO	Poster
SPO	Student Poster