



**Pacific Branch
ENTOMOLOGICAL
SOCIETY
OF AMERICA
Eighty-Seventh
Annual Meeting**



Kurt Volker
President

**DoubleTree Hotel at Reid Park
Tucson, Arizona
March 23-26, 2003**

**PACIFIC BRANCH
ENTOMOLOGICAL SOCIETY OF
AMERICA**

President

Kurt Volker
Syngenta, 7610 Scenic Drive, Yakima, WA.

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Department of Biology, Utah State University,
Bozeman, MT.

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Department of Entomology, University of
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Ross H. Miller, University of Guam (2004)
(2005)
(2005)

Future Meetings

Bozeman, MT – 2004
Monterey, CA – 2005

PROGRAM

Sunday, March 23

Registration

Ballroom Foyer
2:00 p.m. - 8:00 p.m.

Executive Committee Meeting

Ironwood
5:00 p.m. - 7:00 p.m.

Monday, March 24

**Opening Session and Preliminary Business
Meeting**

Salon DE
8:30 a.m. - 10:45 a.m.

8:30 Welcome and Opening Remarks

Kurt Volker, President, Pacific Branch,
Entomological Society of America

8:40 Report From the National Organization

Z. B. Mayo, Jr., President, Entomological
Society of America, University of Nebraska,
Department of Entomology, Lincoln, NE.

8:55 Report From the Governing Board

John D. Stark, Representative, Pacific
Branch

9:05 Entomological Foundation Presentation

Robert K. Washino, Foundation Counselor,
University of California, Davis, CA.

**9:15 2002 Woodworth Award Winner
Presentation**

Aphids and the aphid-attacking parasitoids
of the Pacific Northwest: diversity,
relationships, and interactions. **Keith S.
Pike**, Department of Entomology,
Washington State University, Prosser, WA

9:50 2002 Pacific Branch Comstock Award Winner Presentation

Pheromone response and mating activity in the consperse stink bug, *Euschistus conspersus*. **Christian H. Krupke**, Department of Entomology, Washington State University, Wenatchee, WA.

10:25 Preliminary Business Meeting
Kurt Volker, President, Pacific Branch, Entomological Society of America

10:45 Adjourn

Student Poster Competition Posters

Salon A

9:00 a.m. to 5:00 p.m.

MS Student Poster Competition

P-01 Respiratory morphology of *Abedus herberti* eggs (Hemiptera: Belostomatidae). **Christine L. Goforth** and Robert L. Smith, Department of Entomology, University of Arizona, Tucson, AZ.

P-02 Degree-day model predicting flight activity of western bean cutworm in Idaho. **Anette J. Lauritzen**, Edward J. Bechinski and Robert L. Stoltz, Division of Entomology, Department of Plant, Soil and Entomological Sciences, University of Idaho, Moscow, ID.

P-03 Crickets are superior poets. **Timothy P. Waters**, Holly Ferguson and Douglas B. Walsh, Department of Entomology, Washington State University, Pullman, WA.

P-04 *Culex quinquefasciatus* mosquitoes feed on a range of hosts in urban Tucson, Arizona. **Margaret L. Zinser**, Frank B.

Ramberg, Elizabeth Willott and Carl Pope. Department of Entomology, University of Arizona, Tucson, AZ.

PhD Student Poster Competition

P-05 Suspected chemosensory structures on the ovipositor of stem-galling sawfly (Hymenoptera: Tenthredinidae). **Sharon M. Ferrier** and Peter W. Price, Department of Biological Sciences, Northern Arizona University, Flagstaff, AZ.

P-06 Parasitoids of *Euschistus conspersus* (Hemiptera: Pentatomidae) in North Central Washington. **Christian H. Krupke**, Jay F. Brunner and Vince P. Jones, Washington State University, Wenatchee, WA.

P-07 Understanding the mode of action of elevated carbon dioxide for postharvest insect control. **Tunyalee A. Martin**¹, Christine Y. S. Peng¹ and Elizabeth J. Mitcham², ¹Department of Entomology, University of California, Davis, CA. ²Department of Pomology, University of California, Davis, CA.

P-08 Impact of pesticides on spider mites (Acari: Tetranychidae) and their natural enemies on grape in South-Central Washington. **Deirdre A. Prischmann** and David G. James, Washington State University, Prosser, WA.

10-Minute Paper Session Student Competition

Salon E

10:45 a.m. – Noon

Moderators:

Sujaya Rao, Department of Entomology, Oregon State University, Corvallis, OR and
Sue Blodgett, Department of Entomology, Montana State University, Bozeman, MT

Time Paper and Author(s)

M.S. Presentations

10:45 Phylogeny of the leafhopper subgenus *Errhomus* (*Erronus*) (Homoptera: Cicadellidae) based on MTDNA sequences. **Diana G. Johnson**, Richard S. Zack and Walter S. Sheppard, Department of Entomology, Washington State University, Pullman, WA.

10:57 Making space for a hitchhiker: dynamics of leaf-riding in tropical leaf-cutter ants. **Barrett A. Klein**, Department of Entomology, University of Arizona, Tucson, AZ.

11:09 Role of host walnut fruit quality in patterns of ovarian development in the tephritid fly, *Rhagoletis juglandis*. **Heather S. Mallory**, and Daniel R. Papaj, Department of Ecology and Evolutionary Biology, University of Arizona, Tucson, AZ.

Ph.D. Presentations

11:21 Copulation and sperm release in *Anelosimus analyticus*: differential male behavior based on female mating history. **Ana K. Planavsky** and Todd C. Bukowski, Department of Ecology and Evolutionary Biology, University of Arizona, Tucson, AZ.

11:33 Does presence of conspecifics facilitate learning of color cues in bumblebees (*Bombus impatiens*)? **Laura D. Carsten** and Daniel R. Papaj, Department of Ecology and Evolutionary Biology, University of Arizona, Tucson AZ.

- 11:45** The functional reproductive morphology of female *Homalodisca coagulata* (Auchenorrhyncha: Cicadellidae). **Natalie A. Hummel**¹, Frank G. Zalom¹, Nick C. Toscano², and Christine Y. S. Peng¹, ¹Department of Entomology, University of California, Davis, CA, ²Department of Entomology, University of California, Riverside, CA.

10-Minute Oral Presentation Session

Salon D

1:30 a.m. – 5:00 p.m.

Moderators:

- Time Paper and Author(s)**
- 1:30** Macroevolutionary theory on macroecological patterns: distribution, abundance and population dynamics. **Peter W. Price**, Department of Biological Sciences, Northern Arizona University, Flagstaff, AZ.
- 1:42** Implications of new defensive chemical data for the adephagan phylogeny (Coleoptera). **Will Kipling**¹, Athula Attygalle², David R. Maddison³, ¹Environmental Science, Policy and Management, Insect Biology, University of California, Berkeley, CA., ²Stevens Institute of Technology, Chemistry and Chemical Biology Department, Hoboken, NJ, ³Department of Entomology, University of Arizona, Tucson, AZ
- 1:54** Phylogenetic analysis of the genus *Kiefferiella* Ashmead (Hymenoptera: Cynipoidea: Liopteridae). **Katherine N. Schick**¹ and Fredrik Ronquist², ¹Essig Museum of Entomology, University of California, Berkeley, CA, ²Department of Systematic Zoology, Evolutionary Biology Centre, Uppsala University,

Norbyvägen 18D SE-752 36 Uppsala Sweden.

- 2:08** The dark-color-inducing neurohormone (DCIN) of locust and corazonin; NMR study of their 3-D structures. Deborah E. Shalev¹, **Yoram Yerushalmi**², Meir P. Pener² and Irina Kustanovich^{1,3}, ¹Wolfson Centre for Applied Structural Biology, ²Department of Cell and Animal Biology and ³Department of Biological Chemistry, Silberman Institute of Life Sciences, Safra Campus, Givat Ram, The Hebrew University of Jerusalem, Jerusalem 91904, Israel.

- 2:20** Influence of temperature on immature development of coconut mites, *Aceria guerreronis* Keifer (Acarina: Eriophyidae), on queen palms.

Tommaso Anasaloni and Thomas M. Perring, Department of Entomology, University of California, Riverside, CA.

- 2:32** Volatiles from virus infected plants influence vector behavior: Clever luteoviruses? **Sanford D. Eigenbrode**, Philip H. Berger, Nilsa A. Bosque-Pérez, Hongjian Ding and Edgardo Jimenez, Division of Entomology, Department of Plant, Soil and Entomological Sciences, University of Idaho, Moscow, ID.

- 2:44** Parasitoids of the citrus leafminer, *Phyllocnistis citrella* (Lepidoptera: Gracillariidae) in Southern California. **Marta Guillén** and John M. Heraty, Department of Entomology, University of California, Riverside, CA.

- 2:56** Break

- 3:10** Molecular marker for early identification of larvae of exotic crane fly species in the Pacific Northwest. **Sujaya Rao** and A. Liston, Department of Entomology, Oregon State University, Corvallis, OR.

- 3:22** Efficacy of selected pesticides for localized control of the western drywood termite, *Incisitermes minor* (Hagen). **Donald A. Reiersen**, Michael K. Rust and J. Hampton-Beesley, Department of Entomology, University of California, Riverside, CA.

- 3:34** Controlling Argentine ants (Hymenoptera: Formicidae) with aqueous baits. **Michael K. Rust**¹, Donald A. Reiersen¹, John H. Klotz¹ and Kent Daane², ¹Department of Entomology, University of California, Riverside, CA., ²University of California, Parlier, CA.

- 3:46** Does harassment by unpaired males influence egg-laying behavior in the damselfly, *Enallagma boreale*? **Scott Smidt**, Department Biological Sciences, Idaho State University, Pocatello, ID.

- 3:58** Nutrient enrichment effects on oviposition preference, larval performance, and chemical defense of a specialist insect herbivore **Kathleen L. Prudic**¹ and Jeffrey C. Oliver² ¹Department of Ecology and Evolutionary Biology, University of Arizona, P.O. Box 210088, Tucson, AZ, ²Interdisciplinary Program in Insect Science, University of Arizona, P.O. Box 210036, Tucson, AZ

- 4:10** Do fly repellents used on horses repel Africanized honey bees? **Justin O. Schmidt**¹, Hayward G. Spangler¹, Andrea N. Johnston² and Daniel L. Ginter³, ¹Carl Hayden Bee Research Center, US Department of Agriculture-ARS, Tucson, AZ, ²Tufts School of Veterinary Medicine,

North Grafton, MA, ³Department of Fishery and Wildlife Science, New Mexico State University, Las Cruces, NM.

4:22 School IPM. **Dawn H. Gouge**, Kirk A. Smith and Carl J. Martin, Department of Entomology, University of Arizona, Maricopa, AZ.

4:34 Apple maggot, *Rhagoletis pomonella* (Wash), (Diptera: Tephritidae) survey in Washington State. **Michael W. Klaus**, Washington State University and Washington State Department of Agriculture, Yakima, WA.

4:46 Involving graduates and undergraduates in science education in rural Oregon schools. **Sujaya Rao**, Devora Shamah and Lynn Royce, Department of Entomology, Oregon State University, Corvallis, OR.

Glassy-winged Sharpshooter: A Multidisciplinary Control Approach, Symposium

Salon BC

1:30 p.m. – 5:00 p.m.

Moderator and Organizer:

Jacquelyn L. Blackmer, Western Cotton Research Laboratory, US Department of Agriculture/ARS, Phoenix, AZ.

Time Paper and Author(s)

1:30 Opening remarks, Jacquelyn L. Blackmer

1:40 Response of *Homalodisca coagulata*, the glassy-winged sharpshooter, to its host plants at several levels of resolution. **Russell Mizell, III** University of Florida, Monticello, FL.

2:10 *Xylella fastidiosa* epidemiology in California after introduction of the glassy-winged sharpshooter: insights from transmission studies. **Rodrigo P. P. Almeida**, Department of Plant and Environmental Protection Sciences, University of Hawai'i at Manoa, Honolulu, HI.

2:40 Factors influencing *Homalodisca* spp. dispersal in complex and simple host-plant matrices. **Jacquelyn L. Blackmer**¹, James R. Hagler¹ and Gregory S. Simmons², ¹Western Cotton Research Laboratory, US Department of Agriculture-ARS, Phoenix, AZ, ²US Department of Agriculture-APHIS-PPQ, Bakersfield, CA.

3:10 Break

3:30 Implementation of active adaptive management strategies for glassy-winged sharpshooter biological control in California. **David J. W. Morgan**, California Department of Food and Agriculture, Mt. Rubidoux Field Station, Riverside, CA.

4:10 Integrating glassy-winged sharpshooter management tactics. **Matthew J. Blua**, Department of Entomology, University of California, Riverside, CA.

4:40 Concluding remarks

Pacific Branch Mixer and President's Reception

5:30 p.m. - 7:00 p.m.
Cactus Room

Linnaean Games

7:00 p.m. - 9:00 p.m.

Moderators: Sue Blodgett and Sujaya Rao
Bonsai/Boojum

Tuesday, March 25

General Poster Session

9:00 a.m. - 5:00 p.m.

Salon A

Section "B"

P-09 Molecular response of plants to herbivore salivary components. **Richard O. Musser**^{1,2}, Sue M. Hum-Musser^{1,2}, Cheryl H. Vanier⁴, Rangasamy P. Elumalai¹, David W. Galbraith¹, Gary W. Felton⁵, Judith K. Brown¹ and Vickie L. Chandler¹, ¹Department of Plant Sciences, University of Arizona, Tucson, AZ, ²Center for Insect Science, University of Arizona, Tucson, AZ, ³Arizona Research Laboratory, University of Arizona, Tucson, AZ, ⁴Department of Ecology and Evolutionary Biology, University of Arizona, Tucson, AZ, ⁵Department of Entomology, The Pennsylvania State University, University Park, PA.

Section "C"

P-10 Long-term regional suppression of pink bollworms by Bt cotton. **Yves Carrière**¹, Christa Eilers-Kirk¹, Mark S. Sisterson¹, Larry Antilla², Michael Whitlow², Timothy J. Dennehy¹ and Bruce E. Tabashnik¹. ¹Department of Entomology, University of Arizona, Tucson, AZ, ²Arizona Cotton Research and Protection Council, Phoenix, AZ.

P-11 Ecology of western flower trips in intra- and near-orchard habitats. **Steven D. Cockfield**¹, D. G. Johnson², Elizabeth H. Beers¹, and Richard S. Zack², ¹Tree Fruit Research and Extension Center, Washington State University, Wenatchee, WA, ²Department of

Entomology, Washington State University, Pullman, WA.

Department of Entomology, Washington State University, Prosser, WA.

Washington State University, Prosser, WA.

- P-12** Effects of phagostimulants in *A. mellifera* L. diets. **Anita Hanna** and Justin O. Schmidt US Department of Agriculture-ARS, Carl Hayden Bee Research Center, Tucson, AZ.
- P-13** Evolution of water conservation mechanisms in *Drosophila* species, **Allen G. Gibbs**, Department of Ecology and Evolutionary Biology, University of Arizona, Tucson, AZ.
- P-14** Effects of Alaska spruce beetle (Coleoptera: Scolytidae) outbreaks on regeneration and fuel loading. **Edward H. Holsten**, US Department of Agriculture, Forest Service, Anchorage, AK.
- P-15** Life history and damage of *Elatobium abietinum* (Homoptera: Aphididae) on spruce in the southwestern U.S.A. **Ann M. Lynch**, US Department of Agriculture, Forest Service, Flagstaff, AZ.
- P-16** Avocado thrips, *Scirtothrips perseae* Nakahara, in its native home: Mexico and Guatemala, **Phil A. Phillips**, University of California, Ventura, CA.
- P-17** Ovipositional response, developmental effects and toxicity of hexavalent chromium to *Megaselia scalaris*. **John T. Trumble** and Peter D. Jensen, Department of Entomology, University of California, Riverside, CA.

Section "F"

- P-18** Cutworm control on Pacific Northwest mint. **Holly Ferguson**, Ronald Wight, Timothy Waters and Douglas B. Walsh,

- P-19** Performance of Intrepid® (methoxyfenozine) against the western yellowstriped armyworm, *Spodoptera praefica*. **Fikru Haile**, R. Smith, and Jessie M. Richardson, Dow AgroSciences, Fresno, CA.

- P-20** Effects of sanitation practices on almond mummies infested with navel orangeworm. **Bradley S. Higbee**, Paramount Farming Co., Bakersfield, CA.

- P-21** Economic injury level and within-plant vertical distribution of spider mites (Acari: Tetranychidae) in California field corn. **Richard R. Lewis**¹, Larry D. Godfrey¹, Kevin Keillor², Jorge J. Cisneros³, Carol Frate⁴ and Kent Brittan⁵, ¹Department of Entomology, University of California, Davis, CA ²University of California Cotton Research and Extension Center, Shafter, CA, ³Syngenta, Western Regional Tech. Center, Visalia, CA, ⁴University of California, Tulare, CA. ⁵ University of California, Woodland, CA.

- P-22** Population dynamics and resistance to Bt crops. **Mark S. Sisterson**, Yves Carrière, and Bruce E. Tabashnik, Department of Entomology, University of Arizona, Tucson, AZ.

- P-23** Management of cutworms in Washington vineyards. **Douglas B. Walsh**, Ronald Wright, Timothy Waters and Holly Ferguson, Department of Entomology,

Hands Across the Border: The Integration of Trade and Science, Symposium

Salon BC

8 a.m. –11:30 a.m.

Organizer and Moderator: **Victoria Y. Yokoyama**, US Department of Agriculture -ARS, Parlier, CA

- | Time | Paper and Author(s) |
|-------------|---|
| 8:00 | Introductory remarks. Victoria Y. Yokoyama , US Department of Agriculture-ARS, Parlier, CA. |
| 8:10 | Research cooperation with Mexico: mutual benefits in science and trade. E. Herrera , US Department of Agriculture-ARS, Tucson, AZ. |
| 8:30 | The unknown program: collaborative Mexican fruit fly exclusion along California-Mexican border. Robert V. Dowell , California Department of Food and Agriculture, Sacramento, CA. |
| 8:50 | Descortezadores sin fronteras: managing transcontinental scolytids with semiochemicals. Nancy Gillette , US Department of Agriculture, Forest Service, Berkeley, CA. |
| 9:10 | Systems approach for control of oriental fruit moth in stone fruits to British Columbia and Mexico. M. Guidici Pietro , US Department of Agriculture-APHIS-PPQ, South San Francisco, CA. |
| 9:30 | New Mexico and Mexico: evolution of a partnership in trade and science. Carol A. Sutherland , New Mexico State University and New Mexico Department of Agriculture, Las Cruces, NM. |
| 9:50 | Break. |

- 10:05** Mexico-US cooperation for screwworm eradication: recent advances. **Muhammad F. Chaudhury**, US Department of Agriculture -ARS, Panama.
- 10:25** Mexican academy involvement on agricultural regulation. **J. L. Leyva Vazquez**, Secretaria de Agricultura, Ganaderia, Desarrollo Rural, Pesca y Alimentacion (SAGARPA), Servicio Nacional de Sanidad, Inocuidad y Calidad Agroalimentaria (SENASICA), Col. Actipan del Valle, Mexico.
- 10:45** Fruit flies, pest management and trade, 75 years of Mexico-USA cooperative research. **Robert L. Mangan**, US Department of Agriculture -ARS, Weslaco, TX.
- 11:05** A view from the border: industry experiences in Nogales regarding cross border trade of fresh fruits and vegetables. **Lee Frankel**, Fresh Produce Association of the Americas, Nogales, AZ.
- 11:25** Regional pink bollworm eradication program: Chihuahua, Texas and New Mexico. **Robert T. Staten**, US Department of Agriculture, ARS-APHIS, Phoenix, AZ.

Awards Luncheon
Noon - 1:00 p.m.
Courtyard

Advances in Integrated Pest Management of Key Arthropod Pests of Field Crops in the Western U.S., Symposium
Salon D
8:00 a.m. – 11:30

Organizer:
Larry D. Godfrey, Department of Entomology, University of California, Davis, CA.

- | <i>Time</i> | <i>Paper and Author(s)</i> |
|--------------|---|
| 8:00 | Development of a refined understanding of rice water weevil biology to optimize management efficacy. Larry D. Godfrey , Department of Entomology, University of California, Davis, CA. |
| 8:25 | IPM in Northern Plains small grain production systems Sue L. Blodgett , Department of Entomology, Montana State University, Bozeman, MT. |
| 8:50 | The beet goes on: IPM strategies for sugarbeet insects in the Intermountain West. Edward J. Bechinski , Sanford D. Eigenbrode, Susie Y. Emmert, Honjiang Ding and John J. Gallian - Department of Plant, Soil and Entomological Sciences, University of Idaho, Moscow, ID. |
| 9:15 | Biology of corn leafhopper and corn stunt spiroplasma in the San Joaquin Valley. Charles G. Summers , Department of Entomology, University of California, Davis and Parlier, CA. |
| 9:40 | Break |
| 9:55 | Alfalfa seed insect pest management; Where are we? Where are we going? James D. Barbour , Department of Plant, Soil, and Entomological Science, University of Idaho, Parma, ID. |
| 10:20 | Whiteflies in Arizona: an IPM success story. Peter C. Ellsworth ¹ and Steven E. Naranjo ² , ¹ Department of Entomology, University of Arizona, |

Maricopa, AZ and ²Western Cotton Research Laboratory, US Department of Agriculture-ARS, Phoenix, AZ.

- 10:45** Looking wide, thinking large: moving IPM from the farm level to the landscape level. **Peter B. Goodell**, University of California, Parlier, CA

Awards Luncheon
Noon - 1:00 p.m.
Courtyard

From Physiology to Communities: a Symposium on the Ecology of Arthropods of Arid Ecosystems, Symposium
Salon E
8:00 a.m. – 11:30 a.m.

Organizer and Moderator:
Richard A. Redak, Department of Entomology, University of California, Riverside, CA

- | <i>Time</i> | <i>Paper and Author(s)</i> |
|--------------|--|
| 8:00. | Introduction. Richard A. Redak , Department of Entomology, University of California, Riverside, CA. |
| 8:05 | Evolution of water balance in natural and artificial deserts: lessons from <i>Drosophila</i> . Allen E. Gibbs , Departments of Ecology and Evolutionary Biology and Entomology, University of Arizona, Tucson, AZ. |
| 8:30 | Low phenotypic plasticity in highly variable desert environments: selection for developmental stability and short development time in the pallid-winged grasshopper (<i>Trimerotropis pallidipennis</i>). Goggy Davidowitz , Department of Ecology and Evolutionary Biology, University of Arizona, Tucson, AZ. |

- 8:55** For better or worse? *Manduca sexta* is the major pollinator and major herbivore of *Datura wrightii* in Arizona deserts. **Judith L. Bronstein**, Department of Ecology and Evolutionary Biology, University of Arizona, Tucson, AZ.
- 9:20** Life history and evolutionary ecology of an obligate pollinating seed-consuming moth (Pyrilidae: Lepidoptera). **J. Nathaniel Holland**, Department of Ecology and Evolutionary Biology, University of Arizona, Tucson, AZ.
- 9:45** Break
- 10:00** Desert ecology of the giant water bugs (Hemiptera: Belostomatidae). **Robert L. Smith**, Department of Entomology, University of Arizona, Tucson, AZ.
- 10:25** Spatial and temporal variation in the community of herbivores attacking western jimsonweed. **J. Daniel Hare**, Department of Entomology, University of California, Riverside, CA.
- 10:50** Insect communities and avian habitat quality: bugs, birds, and coastal sage scrub. **Richard A. Redak**, Department of Entomology, University of California, Riverside, CA.

Awards Luncheon
Noon - 1:00 p.m.
Courtyard

Techniques for Marking Insects for Dispersal Studies, Symposium
Salon BC
1:30 p.m. – 5:00 p.m.

Organizer and Moderator:

James R. Hagler, Western Cotton Research Laboratory, USDA/ARS, Phoenix, AZ.

Time Paper and Author(s)

1:30 Introductory remarks **James R. Hagler**, Western Cotton Research Laboratory, USDA/ARS, Phoenix, AZ.

1:40 Suitability of hand-held harmonic radar technology for mark and recapture studies in field crops. **Matthew E. O'Neal**¹, Douglas A. Landis¹, Edward Rothwell², Leo Kempel², Donnie Reinhard², Benjamin Wilmhoff² and Anthony Grant².

¹Department of Entomology, Michigan State University, East Lansing, MI,
²Department of Electrical and Computer Engineering, Michigan State University, East Lansing, MI.

2:05 Potential versus practical use of N15 enriched plants to mark phytophagous and entomophagous insects. **Kent M. Daane**, Division of Insect Biology, University of California, Berkeley, CA.

2:30 Pros and cons of using rubidium as a marker for measuring insect dispersal. **John E. Dunley**, Department of Entomology, Washington State University, Wenatchee WA.

2:55 Improving on the protein marking technique and the protein-specific ELISA. **James R. Hagler**, Western Cotton Research Laboratory, US Department of Agriculture-ARS, Phoenix, AZ.

3:20 Break

3:30 Developing immunomarkers for studying landscape-level movement patterns. **Vincent P. Jones**¹, James R.

Hagler² and Qing Li³, ¹Washington State University, Wenatchee, WA, ²Western Cotton Research Laboratory, US Department of Agriculture-ARS, Phoenix, AZ, ³Department of Molecular Biosciences and Bioengineering, University of Hawai'i at Manoa, Honolulu, HI.

3:55 Potential use of enhanced green fluorescent protein (EGFP) as a genetic marker for use in insect dispersal studies and control programs. **Ernie D. Miller** and Robert T. Staten, US Department of Agriculture, ARS-APHIS, Phoenix, AZ.

4:20 Collecting dust with a whitefly parasitoid: method and application for mass-mark-recapture studies with minute insects using fluorescent dust. **David E. Bellamy** and David N. Byrne, Department of Entomology, University of Arizona, Tucson, AZ.

4:45 Vital dyes for marking insects. **Livy Williams, III**¹, Mauricio Ulloa² and Gordon L. Snodgrass¹, ¹US Department of Agriculture -ARS, Southern Insect Management Research Unit, Stoneville, MS, ²US Department of Agriculture-ARS, Western Integrated and Cropping Systems Research Unit, Shafter, CA.

Graduate Student Symposium

Salon D
1:30 p.m. - 5:00 p.m.

Organizer and Moderator:
Stuart C. Wooley, Department of Entomology, University of California, Riverside, CA.

Time Paper and Author(s)

1:30 Insect oosorption: a brief review and new insights from *Eretmocerus eremicus* (Hymenoptera: Aphelinidae). **Mark K.**

Asplen, Department of Entomology,
University of Arizona, Tucson, AZ.

- 2:00** The molecular systematics of the Figitidae (Hymenoptera: Cynipoidea). **Matthew L. Buffington**, Department of Entomology, UC Riverside, Riverside, CA.
- 2:30** Break
- 2:45** The Paleoptera problem: sense and sensitivity. **T. Heath Ogden** and Michael F. Whiting. Department of Integrative Biology, Brigham Young University, Provo, UT.
- 3:15** Differential effect of mycorrhizal fungal species on a specialist chewer (*Manduca sexta*) and sucker (*Tupiocoris notatus*). **Stuart C. Wooley** and Timothy D. Paine, Department of Entomology, University of California, Riverside, CA.
- 3:45** Origins and molecular evolution of nuclear mitochondrial pseudogenes (NUTMs) in *Colletes stepheni* (Hymenoptera: Apoidea). **Rebekah Andrus**, Department of Biology, Utah State University, Logan, UT.

Novel Insect Management, Symposium

Salon E

1:30 p.m. - 5:00 p.m.

Organizer and Moderator:

David E. Bragg, Washington State University,
Pomeroy WA.

- | Time | Paper and Author(s) |
|-------------|--|
| 1:30 | Entomology research in Pacific Northwest grass seed. David E. Bragg , Department of Entomology, Washington State University, Pomeroy, WA. |

- | | |
|-------------|---|
| 1:55 | Insect management through previous crop weed control. Brian Bret , Dow AgroSciences. Granite Bay, CA. |
| 2:20 | Novel sources of plant resistance to insect pests of grain legumes and grasses. Steven L. Clement , US Department of Agriculture-ARS, Plant Germplasm Introduction and Testing Research Unit, Washington State University, Pullman, WA. |
| 2:45 | Washington State Invasive Weed Bioagent Enhancement Program. Dale K. Whaley ¹ , Daro G. Palmer ² and Daniel L. Fagerlie ³ , ¹ Washington State University, Wenatchee, WA, ² Department of Entomology, Washington State University, Pullman, WA, ³ Washington State University, Republic, WA. |
| 3:10 | Break |
| 3:35 | Economic impact of Hessian fly on spring wheat in Eastern Oregon. Richard H. Smiley ¹ and Kimberlee Kidwell ² , ¹ Oregon State University, Pendleton, OR and ² Department of Crop and Soil Sciences, Washington State University, Pullman, WA. |
| 4:00 | Herbivore-induced plant volatiles: new tools for pest management? David G. James , Department of Entomology, Washington State University, Prosser, WA. |
| 4:25 | Concluding remarks, David Bragg |

Pacific Branch Student Mixer

5:30 p.m. - 6:30 p.m.

Ironwood

Wednesday, March 26

Oral Presentations

8:30 a.m. – 10:34 a.m.

Salon BC

Organizer and Moderator:

John C. Palumbo

Department of Entomology, University of Arizona,
Yuma, AZ

Time Paper and Author(s)

Section "F"

- | | |
|-------------|---|
| 8:30 | Carabid beetles as biological control agents in potatoes. Juan M. Alvarez , Department of Entomology, University of Idaho, Aberdeen, ID. |
| 8:42 | Cultivar preference in the olive fruit fly (<i>Bactrocera oleae</i>): a review. Hannah Burrack and Frank G. Zalom, Department of Entomology, University of California, Davis, CA. |
| 8:54 | Bayer® Environmental Science, an overview of the new organization. Phillip McNally and M. Chapman, Development and Technical Service, Bayer Environmental Science, Lake Forest, CA. |
| 9:06 | Molecular detection of Bt resistance in the field. Shai Morin ^{1,2} , Robert W. Biggs ¹ , Mark S. Sisterson ¹ , Laura Shriver ¹ , Christa Eilers-Kirk ¹ , Dawn Higginson ¹ , Daniel Holley ¹ , Linda J. Gahan ³ , David G. Heckel ⁴ , Yves Carrière ¹ , Timothy J. Dennehy ¹ , Judith K. Brown ^{1,2} , and Bruce E. Tabashnik ¹ , ¹ Department of Entomology, University of Arizona, Tucson, AZ, ² Department of Plant Sciences, University of Arizona, Tucson, AZ, ³ Department of Biological Sciences, Clemson University, Clemson SC, ⁴ Centre for Environmental Stress and Adaptation Research, Department of Genetics, University of Melbourne, Parkville, VIC 3010 Australia. |

- 9:18** Ten years of Admire® (imidacloprid) use in the desert Southwest. **John C. Palumbo**, Department of Entomology, University of Arizona, Yuma, AZ.
- 9:30** Twospotted spider mite control in alfalfa: effects of miticides on western flower thrips. **Michael Rethwisch** and Bradford J. Griffin, University of California, Blythe, CA.
- 9:42** Resistance to Bt crops: lessons from the first seven years. **Bruce E. Tabashnik**, Yves Carrière, Timothy J. Dennehy, Shai Morin, and Mark S. Sisterson, Department of Entomology, University of Arizona, Tucson, AZ.
- 9:54** Break
- 10:10** Novel insecticides for the economic control of winter moth (Lepidoptera: Geometridae) in blueberry. **Lynell K. Tanigoshi**, Jeanette R. Bergen and Todd A. Murray, Department of Entomology, Washington State University, Vancouver, WA.
- 10:22** *Lygus* feeding damage studies on Washington State apples. **Ronald P. Wight**, Timothy P. Waters and Douglas B. Walsh, Department of Entomology, Washington State University, Prosser, WA.

Systematic Discussion

Moderator and Organizer:

Peter S. Cranston

Department of Entomology, University of California, Davis, CA.

9:00 – 11:15

Salon DE

Final Business Meeting

Salon BC
11:30 a.m. - Noon

MEETING NOTES

REGISTRATION:

Sunday, March 23, 2:00 p.m. - 8:00 p.m.

Monday, March 24, 8:00 a.m. - 4:00 p.m.

Tuesday, March 25, 8:00 a.m. - noon

Everyone attending the Pacific Branch meeting or participating in the Special Events Program must register. The registration desk will be located in the Ballroom Foyer, DoubleTree. Those who are pre-registered may pick up registration materials there. On-site registration for members, students, spouses and non-members can be made at the registration desk. Credit card payments cannot be accepted.

AWARDS LUNCHEON:

Our awards luncheon will be held starting at noon Tuesday, March 25, in the Courtyard and is included in the registration fee.

BRANCH MIXER and PRESIDENT'S

RECEPTION: The mixer and reception is scheduled for Monday evening, March 24, from 5:30 to 7:00 p.m. in the Ironwood Room. Drinks and appetizers will be served. Tickets for guests are \$15 each at the registration desk.

STUDENT GATHERINGS:

A student breakfast will be held from 6:30 until 8:00 a.m. on Tuesday, March 24 in the Ironwood Room. A student mixer will be held in the same room from 5:30 until 6:30 that evening.

POSTER DISPLAY PRESENTATIONS:

Student poster displays will be presented in Salon A on Monday, March 23 from 9:00 a.m. until 5:00 p.m. The general poster session will be presented on Tuesday, March 25, from 9:00 a.m. to 5:00 p.m. Saloon will be open for

authors to set up their displays in advance on both days from 8:00 to 9:00 a.m. Displays should be taken down by 6:00 p.m. Tuesday, March 25. Poster boards are 4' (H) x 8' (L) and pushpin friendly. **There will be two posters per board.** Authors please bring your own pushpins and post your displays to indicate when you will be present to discuss your presentation. **Authors are expected to be by their posters from 9:00 until 10:30 and from 2:00 until 3:00 on both days.**

INFORMATION:

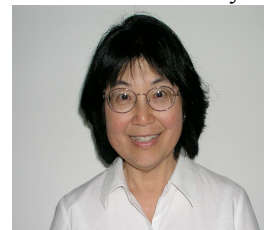
Notices, meeting schedule changes and general information will be posted throughout the meeting and will be available at the Registration Desk. Information on points of interest, dining, and entertainment will also be available from the hotel.

EXECUTIVE COMMITTEE:

The Pacific Branch Executive Committee will meet Sunday evening, March 23, from 5:00 - 7:00 p.m. in the Ironwood Room.

NOMINATIONS FOR PRESIDENT-ELECT:

The Nominations Committee, Keith Pike (Chair), Art Antonelli, Frank Zalom recommend Dr. Victoria Yokoyama for President-elect of the Pacific Branch. Dr. Victoria Y. Yokoyama, Research Scientist at the



US Department of Agriculture-ARS, San Joaquin Valley Agricultural Sciences Center, Parlier, CA, develops quarantine treatments and strategies to control of pests of

regulatory concern in commodities exported to foreign countries. Her current research concerns basic and applied studies of olive fruit fly in California and control of Hessian fly in exported hay. Dr. Yokoyama has held previous positions with the Department of Biology, California State University, Long Beach and Columbia University. She received her BS degree from University of California, Davis,

and her MS and PhD degrees from University of California, Berkeley.

Dr. Yokoyama has served the Entomological Society of America on numerous Pacific Branch and National Committees and most notably as Section E Chair, Subsection Eb Chair, Local Arrangements Committee Chair for the 1998 Joint Annual Meeting, Exotic Pest List Committee, and American Entomologist Editorial Board Chair. She is a 4-H Project Leader in Ornamental Horticulture and Entomology.

MEETING SCHEDULE:

Session moderators are responsible for keeping speakers on schedule. If a presentation is completed early, or cancelled, the moderator must insure that the next presentation begins at the scheduled time. Sessions must not get ahead or fall behind schedule.

LINNAEAN GAMES:

The Games will be held on Monday, March 24, from 7:00-9:00 p.m. in the Bonsai Room. Contact Dr. Sujaya Rao, Oregon State University, for more information.

AWARDS:

The C. W. Woodworth and Comstock Awards will be presented during the opening session on Monday, March 24. All other awards will be presented during the awards luncheon on Tuesday, March 25.

HOUSING AND TRANSPORTATION:

Headquarters for the meeting will be at the DoubleTree Hotel at Reid Park, 445 South Alvernon, Tucson AZ (520 881-4200). The hotel can be reached from the I-10 by turning east and traveling 5 miles to Alvernon Way. Turn south for 3.2 miles to 455 S. Alvernon Way. (520) 881-4200.

WEATHER:

The weather in Tucson during March is much better than July! The mean daily high during that period is 76°, with a mean low of 42°. The mean rainfall is 0.03”.

JOHN HENRY COMSTOCK GRADUATE STUDENT AWARD



This year's winner of the Comstock Award for the Pacific Branch of the ESA is Christian Krupke. In 2001, Mr. Krupke began a Ph.D. at

Washington State University, where he is studying intraspecific communication and mate selection in the conperse stink bug, *Euschistus conspersus*, with an emphasis on possible behavior-based management options for this emerging pest of commercial apple orchards. He received an M.S. in pest management from Simon Fraser University (1999), where his work focused upon the behavioral response of codling moth to a pheromone-based attract-and-kill management system, and received a B.S. in biological sciences from the University of Guelph (1995).

WOODWORTH AWARD



The C. W. Woodworth Award annually recognizes a person in the Pacific Branch of the Entomological Society of America who has made outstanding contributions to entomology during the past decade. The 2003 Woodworth Award goes to Dr. Keith S. Pike of the

Department of Entomology, Washington State University at Prosser.

Dr. Pike is a research entomologist and professor at Washington State University -- affiliated with the University's Research and Extension Center at Prosser since 1976. He received his M.S. and Ph.D. degrees in entomology at the University of Wyoming working on alfalfa weevil parasitoids and plant resistance. He has been active in both basic and applied insect research on such crops as sweet corn, potatoes, alfalfa, wheat, barley, timothy, and mint.

He has served as President of the Pacific Branch of the Entomological Society of America, on the society's national governing board, on numerous ESA and university committees, and on various western regional research coordinating teams. He has served as an FAO consultant for biological control in Chile, and has been involved in various other international assignments in Europe, China, Middle East, Morocco, South Africa, Brazil, Argentina, New Zealand, Palau, and the Northern Marianas. He has been an active advisor/mentor to various graduate students, and involved in numerous outreach programs for growers and fieldmen, including commodity-informing hotlines and websites.

During the past 10 years, Dr. Pike has established himself as a leader in parasitic biological control of aphids. In concert with other collaborating scientists (especially Dr. P. Star Czech Acad. Sciences), he has made key contributions in defining and understanding the species spectrum of the aphidiids (aphid-attacking parasitic braconid wasps), the myriad of trophic relationships (parasite-aphid-plant/habitat associations), and the merits of these parasitoids as biological control agents in northwestern USA. He, with Dr. L. Tanigoshi and T. Miller [Washington State University - Dept. of Entomology, Vancouver and Pullman, respectively], and others, directed a biological control research program in Washington that successfully increased the spectrum of exotic parasitoids attacking grain aphids in wheat and barley and led to significant

reductions in the use of pesticides on small grains. His work on biological regulation is showcased in several reviews, book chapters, and refereed papers, together with allied articles on aphid ecology, population dynamics, flight, virus transmission, crop damage, and economic injury thresholds. The work, in part, lends support to the implementation of polycultures and the diversification of agricultural landscapes to provide pollen, nectar, and alternative hosts, and shelter for the parasitoids and other natural enemies.

Dr. Pike has brought to light extensive new knowledge on aphidiids of scientific and agricultural significance -- twenty-two new species have been named and described from the Northwest, representing more than a quarter of the known aphidiids in the region. He has assembled one of the largest collections of primary aphid parasitoids (*Acanthocaudus*, *Adialytus*, *Aphidius*, *Betuloxys*, *Binodoxys*, *Diaeretellus*, *Diaeretiella*, *Ephedrus*, *Euaphidius*, *Harkeria*, *Lysaphidus*, *Lysiphlebus*, *Monoctonus*, *Pauesia*, *Praon*, *Pseudopraon*, *Toxares*, *Trioxys*, and *Xenostigmus*) and associated secondary parasitoids (*Alloxysta*, *Asaphes*, *Dendrocercus*, *Lytoxysta*, *Pachyneuron*, and *Phaenoglyphis*) in North America. Today, these collections constitute a foundation and a resource for studies on faunistic linkages, biodiversity, genetics, temporal and spatial distributions, and systematics.

In the spirit of the Woodworth Award, Dr. Pike has made outstanding contributions to entomology in research, outreach, and service.

**PACIFIC BRANCH
ENTOMOLOGICAL SOCIETY OF
AMERICA
COMMITTEES
2002-2003**

Arrangements
Steve Watkins, Chair

Auditing
Tad Gantenbein, Chair

Awards Canvassing
Doug Walsh, Chair

Graduate Student
Stuart C. Wooley

Linnaean Games
Sujaya Rao, Chair

Nominations
Keith Pike, Chair

Operations
Norman Buck, Chair

Program
David Byrne, Chair

Registration
Lucia Varela, Chair

Resolutions
Ed Bechinski, Chair

Site Selection
David Byrne, Co-Chair (2004 meeting)
Mario Moratorio, Co-Chair (2005 meeting)
Bill Chaney
Eric Mussen

Secretary/Treasurer
Brian Bret

Special Events
Olga De La Varga
DoubleTree at Reid Park

Student Paper/ Poster Contest
Sujaya Rao, Chair

Website and Abstracts
David Allison

**PACIFIC BRANCH
ENTOMOLOGICAL SOCIETY OF AMERICA
SUSTANING ASSOCIATES
2002-2003**

Gold
Syngenta

Silver

Bronze

Name	Author Index	
	Type	Time
<hr/>		
Almeida, Rodrigo P.P.	Symp.	Mon. 2:10
Alvarez, Juan M.	Paper	Wed. 8:30
Anasaloni, Tommaso	Paper	Tue. 2:32
Andrus, Rebekah	Symp.	Tue. 1:30
Antilla, Larry	Poster	Tue. 9:00-5:00
Asplen, Mark K.	Symp.	Tue. 1:30
Attygalle, Athuls	Paper	Tue. 1:54
Barbour, James D.	Symp.	Tue. 9:55
Bechinski, Edward J.	Paper	Tue. 8:50
Bechinski, Edward J.	ST Poster	Mon. 9:00-5:00
Beers, Elizabeth H.	Poster	Tue. 9:00-5:00
Bellamy, David E.	Symp.	Tue. 4:20

Bergen, Jeanette R. 10:22	Paper	Wed.	Davidowitz, Goggy 8:30	Symp.	Tue.	Frate, Carol 5:00	Poster	Tue. 9:00-
Berger, Philip H.	Paper	Tue. 2:44	Dennehy, Timothy J.	Paper	Wed.	Gahan, Linda J.	Paper	Wed. 9:06
Biggs, Robert W.	Paper	Wed. 9:06	10:10			Galbraith, David W.	Poster	Tue. 9:00-
Blackmer, Jacquelyn L.	Symp.	Mon. 2:40	Dennehy, Timothy J.	Paper	Wed.	5:00		
Blackmer, Jacquelyn L.	Symp.	Mon. 1:30	9:06			Gallian, John J.	Paper	Tue. 9:20
Blodgett, Sue L.	Symp.	Tue. 8:25	Dennehy, Timothy J.	Poster	Tue.	Gibbs, Allen G.	Poster	Tue. 9:00-
Blua, Matthew J.	Symp.	Mon. 4:10	9:00-5:00			5:00		
Bosque-Perez, Nilsa A.	Paper	Tue. 2:44	Ding, Hongjian	Paper	Tue.	Gibbs, Allen G.	Symp.	Tue. 8:05
Bragg, David E	Symp.	Tue. 4:25	2:44			Gillette, Nancy	Paper	Tue. 8:50
Bragg, David E.	Symp.	Tue. 1:30	Ding, Hongjian	Paper	Tue.	Ginter, Daniel L.	Paper	Tue. 4:10
Bret, Brian	Paper	Tue. 1:55	9:20			Godfrey, Larry D.	Paper	Tue. 8:00
Brittan, Kent	Poster	Tue. 9:00-5:00	Dowell, Robert V. 8:30	Symp.	Tue.	Godfrey, Larry D. 5:00	Poster	Tue. 9:00-
Bronstein, Judith L.	Symp.	Tue. 8:55	Dunley, John E.	Symp.	Tue.	Goforth, Christine L.	ST Poster	Mon. 9:00-
Brown, Judith K.	Paper	Wed. 9:06	2:30			5:00		
Brown, Judith K.	Poster	Tue. 9:00-5:00	Eigenbrode, Sanford D. 2:44	Paper	Tue.	Goodell, Peter B.	Symp.	Tue. 10:45
Brunner, Jay F. 9:00-5:00	ST Poster	Mon.	Eigenbrode, Sanford D. 9:20	Paper	Tue.	Gouge, Dawn H.	Paper	Tue. 4:22
Buffington, Matthew L.	Symp.	Tue. 2:00	9:06			Grant, Anthony	Symp.	Tue. 1:40
Bukowski, Todd C. 11:21	ST Comp	Mon.	Ellers-Kirk, Christa 9:06	Paper	Wed.	Griffin, Bradford J.	Paper	Wed. 9:30
Burrack, Hannah S.	Paper	Wed. 8:42	Ellers-Kirk, Christa 9:00-5:00	Poster	Tue.	Guidici Pietro, M.	Paper	Tue. 9:10
Byrne, David N.	Symp.	Tue. 4:20	Ellsworth, Peter C.	Symp.	Tue.	Guillen, Marta	Paper	Tue. 2:56
Carriere, Yves	Paper	Wed.	10:20			Hagler, James R.	Paper	Tue. 3:30
Carriere, Yves	Paper	Wed. 9:06	Elumalai, Rangasamy P. 9:00-5:00	Poster	Tue.	Hagler, James R.	Symp.	Mon. 2:40
Carriere, Yves	Poster	Tue. 9:00-5:00	Emmert, Susie Y. 9:20	Paper	Tue.	Hagler, James R.	Symp.	Tue. 1:30
Carriere, Yves	Poster	Tue. 9:00-5:00	Fagerlie, Daniel L. 2:45	Paper	Tues.	Hagler, James R.	Symp.	Tue. 2:55
Carsten, Laura D. 11:33	ST Comp	Mon.	Felton, Gary, W. 9:00-5:00	Poster	Tue.	Haile, Fikru	Poster	Tue. 9:00-5:00
Chandler, Vickie L. 5:00	Poster	Tue. 9:00-5:00	Ferguson, Holly 9:00-5:00	Paper	Tue.	Hampton-Beesley, J.	Paper	Tue. 3:32
Chapman, M.	Paper	Wed. 8:54	Ferguson, Holly 9:00-5:00	Poster	Tue.	Hanna, Anita	Poster	Tue. 9:00-5:00
Chaudhury, Muhammad F.	Paper	Tue. 10:05	Ferguson, Holly 9:00-5:00	Poster	Tue.	Hare, J. Daniel	Symp.	Tue. 10:25
Cisneros, Jorge J. 5:00	Poster	Tue. 9:00-5:00	Ferrier, Sharon M. 9:00-5:00	ST Poster	Mon.	Heckel, David G.	Paper	Wed. 9:06
Clement, Steven L.	Symp.	Tue. 2:20	Frankel, Lee 11:05	ST Poster	Mon.	Herraty, John	Paper	Tue. 2:56
Cockfield, Steven D. 5:00	Poster	Tue. 9:00-5:00				Herrera, H.	Symp.	Tue. 8:10
Daane, Kent M.	Paper	Tue. 2:05				Higbee, Bradley S.	Poster	Tue. 9:00-5:00
Daane, Kent M.	Paper	Tue. 3:44				Higginson, Dawn	Paper	Wed. 9:06
						Holland, J. Nathaniel	Paper	Tue. 9:20
						Holley, Daniel	Paper	Wed. 9:06
						Holsten, Edward H. 5:00	Poster	Tue. 9:00-
						Hummel, Natalie A.	ST Comp	Mon. 11:45
						Hum-Musser, Sue M. 5:00	Poster	Tue. 9:00-

James, David G. 9:00-5:00	ST Poster	Mon.	Miller, Ernie D. 3:55	Symp.	Tue.	Pike, Keith S. Planavsky, Ana K.	Woodworth	Mon. 9:15
James, David G.	Symp.	Tue. 4:00	Mitcham, Elizabeth J.	ST Poster	Mon.	Pope, Carle	ST Comp	Mon. 11:21
Jensen, Peter D. 5:00	Poster	Tue. 9:00-	Mizell, Russell III	Symp.	Mon.	Price, Peter W.	ST Poster	Mon. 9:00-
Jimenez, Edgardo	Paper	Tue. 2:44	Morgan, David J.W.	Symp.	Mon.	Price, Peter W.	Paper	Tue. 1:42
Johnson, Diana G. 5:00	Poster	Tue. 9:00-	Morin, Shai	Paper	Wed.	Prischmann, Deirdre A	ST Poster	Mon. 9:00-
Johnson, Diana G. 10:45	ST Comp	Mon.	Morin, Shai	Paper	Wed.	Prudic, Kathleen L.	Paper	Tues. 3:58
Johnston, Andrea	Paper	Tue. 4:06	Murray, Todd A.	Paper	Wed.	Ramberg, Frank B.	ST Poster	Mon. 9:00-
Jones, Vincent P. 9:00-5:00	ST Poster	Mon.	Musser, Richard O.	Poster	Tue.	Rao, Sujaya	Paper	Tue. 3:20
Jones, Vincent P.	Symp.	Tue. 3:30	Naranjo, Steven E.	Symp.	Tue.	Rao, Sujaya	Paper	Tue. 4:46
Keillor, Kevin 5:00	Poster	Tue. 9:00-	O'Neil, Matthew E.	Symp.	Tue.	Redak, Richard A.	Symp.	Tue. 10:50
Kempel, Leo	Symp.	Tue. 1:40	Ogden, T. Heath	Symp.	Tue.	Redak, Richard A.	Symp.	Tue. 8:00
Kidwell, Kimberlee	Paper	Tue. 3:35	Oliver, Jeffery C.	Paper	Tues.	Reierson, Donald A.	Paper	Tue. 3:32
Kipling, Will	Paper	Tue. 1:54	Paine, Timothy D	Symp.	Tue.	Reierson, Donald A.	Paper	Tue. 3:44
Klaus, Michael W.	Paper	Tue. 4:34	Palmer, Daro G.	Paper	Tue.	Reinhard, Donnie	Symp.	Tue. 1:40
Kline, Barrett A. 10:57	ST Comp	Mon.	Palumbo, John C.	Paper	Wed.	Rethwisch, Michael	Paper	Wed. 9:30
Klotz, John H.	Paper	Tue. 3:44	Papaj, Daniel R.	ST Comp	Mon.	Richardson, Jessie M.	Poster	Tue. 9:00-
Krupke, Christian H.	Comstock	Mon. 9:50	Papaj, Daniel R.	ST Comp	Mon.	Ronquist, Fredrik	Paper	Tue. 2:08
Krupke, Christian H. 9:00-5:00	ST Poster	Mon.	Pener, Meir P.	Paper	Tue.	Rothwell, Edward	Symp.	Tue. 1:40
Kustanovich, Irina	Paper	Tue. 2:20	Peng, Christine Y.S.	ST Comp	Mon.	Royce, Lynn	Paper	Tue. 4:4
Landis, Douglass A.	Symp.	Tue. 1:40	Peng, Christine Y.S.	ST Poster	Mon.	Rust, Michael K.	Paper	Tue. 3:32
Lauritzen, Anette J. 9:00-5:00	ST Poster	Mon.	Perring, Thomas M.	Paper	Tue.	Rust, Michael K.	Paper	Tue. 3:44
Lewis, Richard R. 5:00	Poster	Tue. 9:00-	Phillips, Phil A.	Poster	Tue.	Schick, Katherine N.	Paper	Tue. 2:08
Li, Qing	Symp.	Tue. 3:30				Schmidt, Justin O.	Paper	Tue. 4:10
Liston, Aaron	Paper	Tue. 3:20				Schmidt, Justin O.	Poster	Tue. 9:00-
Lynch, Ann M. 5:00	Poster	Tue. 9:00-				Shalev, Deborah E.	Paper	Tues. 3:08
Maddison, David R.	Paper	Tue. 1:54				Shamah, Devora	Paper	Tue. 4:42
Mallory, Heather S. 11:09	ST Comp	Mon.				Sheppard, Walter S.	ST Comp	Mon. 10:45
Mangan, Robert L.	Symp.	Tue. 10:45				Shriver, Laura	Paper	Wed. 9:06
Martin, Carl	Paper	Tue. 4:18				Simmons, Gregory S.	Symp.	Mon. 2:40
Martin, Tunyalee A. 9:00-5:00	ST Poster	Mon.				Sisterson, Mark S.	Paper	Wed. 10:10
Mayo, Z.B., Jr.	Report	Mon. 8:40				Sisterson, Mark S.	Paper	Wed. 9:06
McNally, Phillip	Paper	Wed. 8:54				Sisterson, Mark S.	Poster	Tue. 9:00-
						Sisterson, Mark S.	Poster	Tue. 9:00-
						Smidt, Scott	Paper	Tue. 3:56
						Smiley, Richard H.	Paper	Wed. 9:42
						Smith, Kirk L	Paper	Tue. 4:1

Smith, R. 5:00	Poster	Tue. 9:00-	Waters, Timothy P. 10:34	Paper	Wed.
Smith, Robert L.	Symp.	Tue. 10:00	Waters, Timothy P.	Poster	Tue.
Smith, Robert L. 9:00-5:00	ST Poster	Mon.	9:00-5:00		
Snodgrass, Gordon L.	Symp.	Tue. 4:45	Waters, Timothy P.	Poster	Tue.
Spangler, Hayward G.	Paper	Tue. 4:06	9:00-5:00		
Stark, John D.	Report	Mon. 8:55	Waters, Timothy P.	ST Poster	Mon.
Staten, Robert T.	Symp.	Tue. 11:25	9:00-5:00		
Staten, Robert T.	Symp.	Tue. 3:55	Whaley, Richard H.	Paper	Tue.
Stoltz, Robert L. 9:00-5:00	ST Poster	Mon.	4:454:45		
Summers, Charles G.	Paper	Tue. 9:15	Whiting, Michael F.	Symp.	Tue. 2:45
			Whitlow, Michael	Poster	Tue.
			9:00-5:00		
			Wight, Ronald P.	Paper	Wed.
Sutherland, Carol A.	Symp.	Tue. 9:30	10:34		
Tabashnik, Bruce E. 10:10	Paper	Wed.	Wight, Ronald P.	Poster	Tue.
Tabashnik, Bruce E.	Paper	Wed. 9:06	9:00-5:00		
Tabashnik, Bruce E.	Poster	Tue. 9:00-	Wight, Ronald P.	Poster	Tue.
5:00			9:00-5:00		
Tabashnik, Bruce E.	Poster	Tue. 9:00-	Williams, Livy III	Symp.	Tue.
5:00			4:45		
Tanigoshi, Lynell K. 10:22	Paper	Wed.	Willott, Elizabeth	ST Poster	Mon.
Toscano, Nick C. 11:45	ST Comp	Mon.	9:00-5:00		
Trumble, John T. 5:00	Poster	Tue. 9:00-	Wilmhoff, Benjamine	Paper	Tue.
Ulloa, Mauricio	Symp.	Tue. 4:45	1:40		
Vanier, Cheryl H. 5:00	Poster	Tue. 9:00-	Wooley, Stuart C.	Symp.	Tue.
Vazquez, J.L. Leyva	Symp.	Tue. 10:25	3:15		
Volker, Kurt 10:25	Meeting	Mon.	Yerushalmi, Yoram	Paper	Tue.
Volker, Kurt	Opening	Mon. 8:30	2:08		
Walsh, Douglas B. 10:34	Paper	Wed.	Yokoyama, Victoria Y.	Intro.	Tue.
Walsh, Douglas B. 5:00	Poster	Tue. 9:00-	8:00		
Walsh, Douglas B. 5:00	Poster	Tue. 9:00-	Zack, Richard S.	Poster	Tue.
Walsh, Douglas B. 9:00-5:00	ST Poster	Mon.	9:00-5:00		
Washino, Robert K.	Pres.	Mon. 9:05	Zack, Richard S.	ST Comp	Mon.
			10:45		
			Zalom, Frank G.	Paper	Wed.
			8:42		
			Zalom, Frank G.	ST Comp	Mon.
			11:45		
			Zinser, Margaret L.	ST Poster	Mon.
			9:00-5:00		