

**INTERAGENCY AGREEMENT  
BETWEEN  
WASHINGTON STATE UNIVERSITY  
AND  
SPOKANE FALLS COMMUNITY COLLEGE**

**THIS INTERAGENCY AGREEMENT** (the "Agreement") is by and between Washington State University, an institution of higher education and agency of the state of Washington (hereafter referred to as "WSU"); and Spokane Falls Community College, an institution of higher education and agency of the state of Washington located in Spokane, WA (hereafter referred to as "SFCC").

**IT IS THE PURPOSE OF THIS AGREEMENT** to memorialize the terms and conditions under which SFCC will conduct the **Inventory of tramp ants in the Pacific Northwest with specific reference to European fire ants (*Myrmica rubra*), Argentine ants (*Linepithema humile*), Velvety tree ants (*Liometopum* spp.), Odorous house ants (*Tapinoma sessile*) and others** from January 1, 2016 to December 31, 2016.

NOW, THEREFORE, the parties agree as follows:

**I. STATEMENT OF WORK**

Each party shall do all things necessary for and incidental to the performance of the duties set forth below.

A. Duties of WSU:

1. Reimbursement of qualified project expenditures by award invoicing.
2. See RFP (att.1) and Proposal (att. 2).

B. Duties of SFCC:

1. Conducting approval proposal with timely reporting and invoicing.
2. See RFP (att.1) and Proposal (att. 2).

**II. PERIOD OF PERFORMANCE**

Subject to its other provisions, the period of performance of this Agreement shall be for one (2016) year, and shall commence on January 1, 2016, and be completed on December 31, 2016 (the "Term"), unless terminated sooner as provided herein.

**III. PAYMENT**

Compensation for the work provided in accordance with this Agreement has been established under the terms of RCW 39.34.130. The parties have estimated that the annual cost of accomplishing the work will not exceed \$13,450. Payment for satisfactory performance of the work shall not exceed this amount unless the parties mutually agree to

a higher amount prior to the commencement of any work which will cause the maximum payment to be exceeded. Compensation for services shall be based on the following rates and in accordance with the following terms:

- A) As requested by RFP (att.1), completion of Proposal (att. 2); and
- B) Reporting as required by att. 2; and
- C) Successful funding from WSCPR (att. 3).

#### **IV. BILLING PROCEDURES**

SFCC shall submit invoices to WSU on a quarterly basis. WSU shall pay on a quarterly basis for all approved and completed work by warrant or account transfer within thirty (30) days of invoicing.

Invoices shall be submitted to:

Washington State University  
Attn: Adam Williams  
Department of Entomology  
PO Box 646382  
Pullman, WA 99164-6382

#### **V. RECORDS MAINTENANCE**

The parties to this Agreement shall each maintain books, records, documents and other evidence which sufficiently and properly reflect all direct and indirect costs expended by either party in the performance of the services described herein. These records shall be subject to inspection, review or audit by personnel of both parties, other personnel duly authorized by either party, the Office of the State Auditor, and federal officials so authorized by law. All books, records, documents, and other material relevant to this Agreement will be retained for six year after expiration and the Office of the State Auditor, federal auditors, and any persons duly authorized by the parties shall have full access and the right to examine any of these materials during this period.

Records and other documents, in any medium, furnished by one party to this Agreement to the other party, will remain the property of the furnishing party, unless otherwise agreed. The receiving party will not disclose or make available this material to any third parties without first giving notice to the furnishing party and giving it a reasonable opportunity to respond. Each party will utilize reasonable security procedures and protections to assure that records and documents provided by the other party are not erroneously disclosed to third parties.

#### **VI. RIGHTS IN DATA**

Unless otherwise provided, any data that originates from this Agreement shall be "works for hire" as defined by the U.S. Copyright Act of 1976 and shall be owned by WSU.

INTERAGENCY AGREEMENT – WSU & SFCC (Ehmann Award: "Inventory of tramp ants in the Pacific Northwest with specific reference to European fire ants (*Myrmica rubra*), Argentine ants (*Linepithema humile*), Velvety tree ants (*Liometopum* spp.), Odorous house ants (*Tapinoma sessile*) and others" - 2

Data shall include, but not be limited to, reports, documents, pamphlets, advertisements, books, magazines, surveys, studies, computer programs, films, tapes, and/or sound reproductions. Ownership includes the right to copyright, patent, register, and the ability to transfer these rights.

## **VII. INDEPENDENT CAPACITY**

The employees or agents of each party who are engaged in the performance of this Agreement shall continue to be employees or agents of that party and shall not be considered for any purpose to be employees or agents of the other party.

## **VIII. MODIFICATION**

This Agreement may be modified or amended by mutual agreement of the parties. Such amendments shall not be binding unless they are in writing and signed by personnel authorized to bind each of the parties.

## **IX. TERMINATION**

Either party may terminate this Agreement upon 30 days prior written notification to the other party. If this Agreement is so terminated, the parties shall be liable only for performance rendered or costs incurred in accordance with the terms of this Agreement prior to the effective date of termination. Under this section or the following section, if the parties choose to partially or completely terminate this Agreement, the parties shall either mutually agree how any property involved shall be disposed of. If they are unable to do so, they shall submit the dispute to the Dispute Panel provided for in Section XI.

## **X. TERMINATION FOR CAUSE**

If for any cause, either party does not fulfill in a timely and proper manner its obligations under this Agreement, or if either party violates any of these terms and conditions, the aggrieved party will give the other party written notice of such failure or violation. The responsible party will be given the opportunity to correct the violation or failure within fifteen (15) working days. If failure or violation is not corrected, this Agreement may be terminated immediately by written notice of the aggrieved party to the other. See Section IX for the provisions for disposition of property upon the partial or complete termination of this Agreement.

## **XI. DISPUTES**

In the event that a dispute arises under this Agreement that the parties can't resolve, they shall allow the dispute to be decided by a Dispute Panel in the following manner: Each party to this Agreement shall appoint one member to the Dispute Panel. The members so appointed shall jointly appoint an additional member to the Dispute Panel. The Dispute Panel shall review the facts, contract terms and applicable statutes and rules and make a determination of the dispute. The determination of the Dispute Panel shall be final and

binding on the parties hereto. There shall be no charge to the parties for these services of the Dispute Panel.

As an alternative to this process, either of the parties may request intervention by the Governor, as provided by RCW 43.17.330, in which event the Governor's process will control.

## **XII. GOVERNANCE**

This Agreement is entered into pursuant to and under the authority granted by the laws of the state of Washington and any applicable federal laws. The provisions of this agreement shall be construed to conform to those laws.

In the event of an inconsistency in the terms of this Agreement, or between its terms and any applicable statute or rule, the inconsistency shall be resolved by giving precedence in the following order.

- A. applicable state and federal statutes and rules;
- B. statement of work; and
- C. any other provisions of the Agreement, including materials incorporated by reference.

## **XIII. ASSIGNMENT**

The work to be provided under this Agreement, and any claim arising under this Agreement is not assignable or delegable by either party in whole or in part, without the express prior written consent of the other party, which consent shall not be unreasonably withheld.

## **XIV. WAIVER**

A failure by either party to exercise its rights under this Agreement shall not preclude that party from subsequent exercise of such rights and shall not constitute a waiver of any other rights under this Agreement unless stated to be such in a writing signed by an authorized representative of the party and attached to the original Agreement.

## **XV. SEVERABILITY**

If any provision of this Agreement or any provision of any document incorporated by reference shall be held invalid, such invalidity shall not affect the other provisions of this Agreement which can be given effect without the invalid provision, if such remainder conforms to the requirements of applicable law and the fundamental purpose of this agreement, and to this end the provisions of this Agreement are declared to be severable.

## **XVI. ENTIRE AGREEMENT**

This Agreement contains all the terms and conditions agreed upon by the parties. No other understandings, oral or otherwise, regarding the subject matter of this agreement shall be deemed to exist or to bind any of the parties hereto.

## **XVII. CONTRACT ADMINISTRATION**

A designated contract administrator for each of the parties shall administer this Agreement and be responsible for and shall be the contact person for all communications and billings regarding the performance of this Agreement.

The Contract Administrator for WSU is:

Name: Adam Williams  
Department: Entomology  
Address: PO Box 646382  
Washington State University  
Pullman, WA 99164-6382  
Telephone: 509-335-5425  
Fax Number: 509-335-1009

The Contract Administrator for SFCC is:

Name: Doug Mitchell/Lauren D. Hansen  
Department: Biology Department MS 3280  
Address: Spokane Falls Community College  
3410 W. Fort Wright Drive  
Spokane, WA 99224  
Telephone: 509-533-3666  
Fax Number:

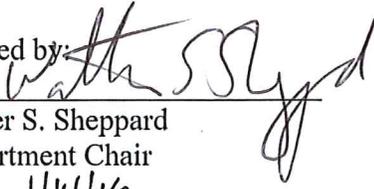
*[Remainder of page intentionally blank.]*

**XVIII. SIGNATURES**

The parties affirm they have designated the persons below to have signature authority for the parties. By their signatures on this Agreement, the parties agree to all of its terms and conditions.

**WASHINGTON STATE UNIVERSITY**

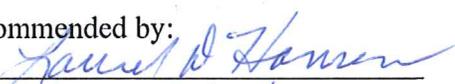
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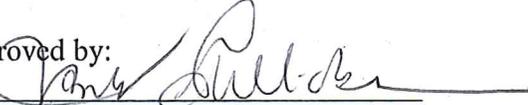
Recommended by:   
By: \_\_\_\_\_  
Name: Walter S. Sheppard  
Title: Department Chair  
Date: 1/14/16

Approved by:   
By: \_\_\_\_\_  
Name: Amanda N. Owen  
Title: Contracts Manager, Finance and Admin  
Date: 1/12/16

**SPOKANE FALLS COMMUNITY COLLEGE**

("SFCC")

Recommended by: \_\_\_\_\_  
By:   
Name: Laurel D. Hanson  
Title: Project Director  
Date: 19 Jan 2016

Approved by: \_\_\_\_\_  
By:   
Name: Janet Gullickson  
Title: President  
Date: 1/20/16

## **Norm Ehmann Urban Pest Management Award** July 2015

**Request for proposals:** Researchers or educators involved with urban pest management problems which occur in the Pacific Northwest are invited to apply. Research may be conducted outside the Northwest if it involves pests that also occur in the Northwest, like bed bugs.

**Purpose:** This endowment was developed through donations from the Oregon and Washington Pest Management Associations, the Pacific Northwest Pest Management Conference and a variety of pest control industry suppliers. It is intended to support research and extension and/or educational activities relevant to Urban Pest Management issues.

**Funding:** Proposals are welcome from all Urban Pest Management researchers and extension educators, but we do expect the proposed research and training to include pests that are located in the Pacific Northwest. The amount of each grant has not been established, but we are planning for a total amount of up to \$30,000 to be made available for this funding period (January 1, 2016 – December 31, 2016). It is expected that one or more projects will be funded. The selection committee encourages applicants to seek matching funds from supporting agencies, such as the Washington State Commission on Pesticide Registration and the Pacific Northwest Pest Management Conference.

### **Evaluation and Selection Criteria:**

Research and Extension Proposals addressing all Urban Pest Management issues will be accepted, with priority placed on those addressing pests in the Pacific Northwest such as:

- Odorous house ants, carpenter ants and other pestiferous ants
- Bed bugs
- Subterranean termites, anobiid beetles, and other wood-destroying organisms.
- Yellowjackets and other wasps.
- Arthropod pests of all stored products
- Mosquitoes and other medically important arthropods
- Rodents
- Training workshops or programs for Pest Control technicians

**Proposal format:** Proposals are limited to 5 pages with 12-point font size and one-inch margins. Applicants should include a two-page vitae as an addendum.

**Rationale and Significance:** Each proposal should contain a detailed description of the pest problem and its impact on the affected industry and/or stakeholders.

**Project Description:** Provide a detailed description of the project including objectives, procedures (including statistical design parameters and analysis when appropriate), time line, matching funds and personnel.

**Deadline:** Proposals will be accepted until August 31, 2015. Submit one electronic or written copy of the proposal to Walter S. Sheppard, Department of Entomology, Washington State University, Pullman, WA, 99164-6382 ([shepp@wsu.edu](mailto:shepp@wsu.edu)). The applicants will be notified of the selection committee choice by October 1, 2015.

**Budget:** A budget narrative and totals must be provided for salaries and benefits, hourly wages, required travel, equipment, and other related expenses. Indirect or overhead costs are not permitted.

**Reporting:** Mid-term and final progress reports are required for funded projects (June 30, 2016 and January 15, 2017, respectively). At the request of the Norm Ehmann Urban Pest Management Award Committee, the researcher may be asked to make a presentation at the annual meeting of the Pacific Northwest Pest Management Association. Funding to attend this meeting will be provided by the Association and should not be included in the proposal.

## **PROPOSAL: Norm Ehmann Urban Pest Management Award**

### **Submitted by:**

Laurel D. Hansen  
Biology Department MS 3280  
Spokane Falls Community College  
3410 W. Fort Wright Drive  
Spokane, WA 99224  
509-533-3666  
[laurel@spokanefalls.edu](mailto:laurel@spokanefalls.edu)

### **TITLE:**

Inventory of tramp ants in the Pacific Northwest with specific reference to European fire ants (*Myrmica rubra*), Impressive fire ants (*Myrmica specioses*), Argentine ants (*Linepithema humile*), Velvety tree ants (*Liometopum* spp.), Odorous house ants (*Tapinoma sessile*) and others.

### **RATIONALE AND SIGNIFICANCE:**

Ants remain the number one urban pest challenge in the most recent survey conducted by Pest Control Technology magazine in 2015. The most critical aspect of ant management is identification of ants by Pest Management Professionals (PMPs). This project is essentially a continuation and expansion of the project funded for 2015. Results of the project accomplished in 2015 will be available in December and reported at the Pacific Northwest Pest Management Conference in February 2016. Briefly, Carpenter ants and Odorous house ants accounted for 60% of structural infestations. Argentine ants were found at a single location and European fire ants were found at two. A new exotic ant, *Myrmica specioses* was found at several locations in the following counties: King, Pierce, Kitsap, and Snohomish. Dr. Robert Higgins from Thompson Rivers University in British Columbia provided a draft of a new Key for *Myrmica* that enabled us to determine the identification of this species. This tramp ant is also in British Columbia and has caused economic problems there at the Vancouver airport runways, the Canadian Pacific Railway, and residences.

In 2015, the selection of 'specific' pest management companies was productive in that 5 of the 6 companies each collected over 100 samples of ants from infested structures. Ants were submitted regularly throughout the spring and summer for identification. Tabulations of these collections were made and preliminary identifications were made by our research team and reported back to the companies. The project director verified the identifications to species while the identifications of *Formica* and *Lasius* species remain on-going. At the final visitation to each company in August, each company was pleased with the progress and results of the survey but expressed the belief that another year of collection would provide additional information regarding the species, the numbers being treated, and the occurrence of exotic species in the Pacific Northwest.

Exotic ants were encountered but not as predicted. Ants were selected for this study because of their status as pest ants and because of similarities (Hansen and Antonelli 2010). All are tramp ants with multiple nesting sites (polydomy) and multiple queens (polygyne). These two factors make these ants difficult to control because these ants do not regularly produce mating flights and spread chiefly by budding. The European fire ant and the Impressive fire ant (not to be confused with the Red Imported Fire Ant, *Solenopsis invicta*) belong to the Subfamily Myrmicinae, and are aggressive stinging ants that can be a health hazard (Higgins 2013). Odorous house ants, velvety tree ants, and Argentine ants all belong to the Subfamily Dolichodorinae and will not sting. Of the latter three ants, the velvety tree ant is wood-destroying, and all three are considered major nuisance ants because of their very large, mobile, and transient colonies (Hansen 2014). Observations of each of these species indicate they eliminate other native species of ants (Klotz 2008).

*Myrmica rubra*: European fire ant was collected in Seattle in 1988 but was not recognized as a pest species until 2006 when it was collected in Washington Arboretum, and also in Vancouver and Victoria, B.C. This ant, native to Europe and Asia, was discovered in Massachusetts in 1908 (Grodén *et al.* 2005) and has spread throughout the New England states and as far south as Pennsylvania. It has also spread north into the southeastern provinces of Canada and in a recent survey of pest ants in Canada, the ant was collected as far west as Toronto (Hansen 2013). An interesting aspect of this ant in North America is that flights have not been observed. Mating occurs in the nest and mated females walk or are carried by commerce to new locations (Grodén *et al.* 2005).

The European fire ant continues to spread through the Washington Arboretum in Seattle and numbers there are higher than in the previous year. Additional locations were not found in inspections of residences, school, parks and recreational areas around Lake Washington and the Seattle area. This ant was collected in the Tacoma area in 2015. As this species requires extremely wet areas, the hot, dry spring and summer may have limited its expansion. In inspecting locations in British Columbia and communicating with Rob Higgins, this ant has continued to spread through the wet areas of the mainland. (Higgins, R. 2013). Management of this ant in Victoria, BC has been somewhat successful by eliminating irrigation and using chemical treatment of the soil.

*Myrmica specioses*: The Impressive fire ant appears to be established in the Puget Sound area. It is a stinging ant and reproductives were collected as well as workers. Extended collections will determine how well this ant has been established. Very little is known about this ant at this time.

*Solenopsis invicta*: The term 'fire ant' includes many species. The fire ant that has achieved the most publicity is a tramp ant from Brazil that occurs in the southern United States and California. No collections were made of this species in the Pacific Northwest in the 2015 collections.

*Linepithema humile*: Argentine ants have been observed in the University of Washington area of Seattle for several years and was recently reported as far west as Woodland Zoo covering several square miles. This ant has been the scourge of Southern California and in

many other areas in southern United States after the initial introduction at New Orleans (Klotz *et al.* 2008). Environmental parameters resemble the European fire ant in that it prefers a Mediterranean climate. This nuisance ant may have extremely large colonies that invade agricultural areas as well as households (Klotz *et al.* 2010).

From the samples collected in 2015, the only locations were in structures at Woodland Park Zoo. No collections were made at residences. Inspection of the Argentine ant site in Victoria where residences and businesses on several blocks are infested has expanded. After several years, control has not been achieved.

The native ant species, (velvety tree ants and odorous house ants) are often referred to as exotic because in natural areas these ants live in small colonies and do not become a nuisance or wood-destroying pest. However in urban areas or near structures these ants live in much larger colonies and nest in materials not found in nature (Buczowski and Bennett 2008). The velvety tree ants (2 species) invade structures and mine wood and insulation that resembles the nesting habits of carpenter ants (Hansen 2008). One species (*L. luctuosum*) occurs in drier habitats and is common in Eastern Washington and Northern Idaho while *L. occidentale* is found in areas with a higher humidity. Both species have been collected in the Columbia Gorge and Oregon. Odorous house ants are reported more commonly in Western Washington than in Eastern Washington although structures in both areas can be infected.

In the 2015 survey, velvety tree ants were collected in Eastern Washington, the Columbia Gorge, Vancouver, and Oregon. This ant is native but because of its reproductive biology is considered a tramp species. Two species are found at different altitudes.

Odorous house ants accounted for nearly 40% of all collections in 2015. This native ant has become a major pest problem particularly in western Washington and Oregon and has been regarded as a tramp ant because of its reproductive biology.

Contacts were made with personnel at Cooperative Extension and the Washington State Department of Agriculture who are interested in the results of our survey. Fact sheets on ants were edited and discussed with Todd Murray and personnel.

Effective ant management by PMPs requires proper identification. PMPs need to recognize not only the ants in their area but also ants that may be introduced. As climate changes, as movement of people and commercial products occur, such as nursery and other landscaping materials, PMPs will encounter more exotic pests. Educational programs and publications for the pest management industry of extended ranges and inventory of these ants will provide valuable information for management.

#### **PROJECT DESCRIPTION:**

With the cooperation of the present collectors from the companies selected in 2015 and the interest of several additional companies, the procedure to supply vials, envelopes for

addresses, and mailers will be made to 10 pest management companies throughout the Pacific Northwest. The research team at Spokane Falls Community College will continue to make preliminary identifications that will be verified by the project director or another taxonomist if necessary. Regular contacts will encourage sending specimens and documentation. Our research team will continue to sample specific areas, particularly where exotic ants are located. Time did not allow for sampling by Winkler extraction and transects this year but will be accomplished for comparison with samples (Agosti *et al.* 2000). The usually hot, dry summer in all parts of the PNW limited sampling areas this year. Reasons for changes in pest ant populations may be due to chemical treatments, climatic changes, housing developments, landscaping practices, introduction through commerce or a combination of these and other factors. There is not good baseline data that documents pest ants in urban areas but there are taxonomic records of ants available at the James Museum at Washington State University and the survey completed by Hoey-Chamberlain *et al.* 2010.

Our research team will meet with each company in January or February to review the procedures for collection and documentation. This meeting will include an informational presentation with the emphasis on the species listed above and examples of each for their review. Technicians involved with collections will be encouraged to attend ant identification workshops held in Puyallup, Spokane, and Salem. Our team will also sample specific sites recommended by PMPs and work with Extension personnel, particularly in the Puget Sound area who have expressed an interest in this study.

Information from this survey will be published in the Pest Intelligencer (WSPMA), and the Crack and Crevice (OPCA) and presented at the PNWPM Conference. Information will also be shared with Extension personnel, WSU Entomology Department, WSDA personnel and with Dr. Robert Higgins, TRU, BC.

**BUDGET:**

Travel to infestation sites:	
Mileage and lodging (3 people)	\$6,200
Technician hours and benefits	
Hourly wages and benefits	\$5,750
Supplies	
Vials and mailers	<u>\$1,500</u>
TOTAL	\$13,450

No funds are requested as salary for the project director or indirect/overhead costs

Total cost for this project will be \$13,450. Funding for this project also will be requested from the Washington State Commission on Pesticide Registration who may provide matching funds if the project is approved. This reduces the cost to the Norm Ehmann award to \$6,725.

## REFERENCES:

- Agosti D., J. D. Majer, L. E. Alonso, T. R. Schultz. 2000. *Ants: standard methods for measuring and monitoring biodiversity*. Smithsonian Institution Press, Washington.
- Buczkowski, G. and G. Bennett. 2008. Seasonal polydomy in a polygynous supercolony of the odorous house ant, *Tapinoma sessile*. *Ecol. Entomol.* 33: 780-78.
- Groden, E., F. A. Drummond, F. A. Garnas, J. and A. Franceour. 2005. Distribution of an invasive ant, *Myrmica rubra* (Hymenoptera: Formicidae, in Maine. *J. Econ. Entomol.* 98: 1774-1784.
- Hansen, L.D. 2013. Which ants are bugging Canadian PMPs? *Pest Control Technology* 41(3): 102.
- Hansen, L.D. 2014. Super Colonies. *Pest Control Technology* 42(4): 22, 24-26, 28, 122.
- Hansen, L. D. and A. L. Antonelli. 2010. Identification and habits of key ant pests of Washington (workers and winged reproductives) EB 033. CES-WSU. 13 pp.
- Higgins, R. 2013. European Fire Ant. Chapter 4 In Preliminary damage estimates for selected invasive fauna in B.C. prepared for Ecosystems Branch B.C. Ministry of Environment. (Eds.) D.C.E. Robinson, D. Knowler, D. Kyobe, and P. de la Cueva Bueno. 62 pp.
- Hoey-Chamberlain, R. V., L. D. Hansen, J. Klotz, C. McNeeley. 2010. A survey of the ants in Washington and surrounding areas in Idaho and Oregon on disturbed areas. *Sociobiology* 56: 1-13.
- Klotz, J., L. Hansen, R. Pospischil, M. Rust. 2008. *Urban Ants of North America and Europe*. Ithaca, NY: Comstock Publishing Associates. 196 pp.

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**IT IS THE PURPOSE OF THIS AGREEMENT** to memorialize the terms and conditions under which SFCC will conduct the **Inventory of exotic ants in the Pacific Northwest with specific reference to: European fire ants (*Myrmica rubra*), Argentine ants (*Linepithema humile*), velvety tree ants (*Liometopum* spp.) and odorous house ants (*Tapinoma sessile*).**

NOW, THEREFORE, the parties agree as follows:

**I. STATEMENT OF WORK**

Each party shall do all things necessary for and incidental to the performance of the duties set forth below.

A. Duties of WSU:

1. Reimburse qualified project expenditures by award invoicing.
2. See RFP (att.1) and Proposal (att. 2).

B. Duties of SFCC:

1. Perform the responsibilities outlined in the Proposal (att. 2) with timely reporting and invoicing.
2. See RFP (att.1) and Proposal (att. 2).

**II. PERIOD OF PERFORMANCE**

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annual cost of accomplishing the work will not exceed \$9,295. Payment for satisfactory performance of the work shall not exceed this amount unless the parties mutually agree to a higher amount prior to the commencement of any work which will cause the maximum payment to be exceeded. Compensation for services shall be based on the following rates and in accordance with the following terms:

- A) As requested by RFP (att. 1), completion of Proposal (att. 2); and
- B) Reporting as required by att. 2; and
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If for any cause, either party does not fulfill in a timely and proper manner its obligations under this Agreement, or if either party violates any of these terms and conditions, the aggrieved party will give the other party written notice of such failure or violation. The responsible party will be given the opportunity to correct the violation or failure within fifteen (15) working days. If failure or violation is not corrected, this Agreement may be terminated immediately by written notice of the aggrieved party to the other. See Section IX for the provisions for disposition of property upon the partial or complete termination of this Agreement.

## **XI. DISPUTES**

In the event that a dispute arises under this Agreement that the parties can't resolve, they shall allow the dispute to be decided by a Dispute Panel in the following manner: Each party to this Agreement shall appoint one member to the Dispute Panel. The members so appointed shall jointly appoint an additional member to the Dispute Panel. The Dispute Panel shall review the facts, contract terms and applicable statutes and rules and make a determination of the dispute. The determination of the Dispute Panel shall be final and binding on the parties hereto. The parties shall share equally in the costs, if any, for the services of the Dispute Panel.

As an alternative to this process, either of the parties may request intervention by the Governor, as provided by RCW 43.17.330, in which event the Governor's process will control.

## **XII. GOVERNANCE**

This Agreement is entered into pursuant to and under the authority granted by the laws of the state of Washington and any applicable federal laws. The provisions of this agreement shall be construed to conform to those laws.

In the event of an inconsistency in the terms of this Agreement, or between its terms and any applicable statute or rule, the inconsistency shall be resolved by giving precedence in the following order.

- A. applicable state and federal statutes and rules;
- B. Attachments in the following order: Attachment 1, Attachment 2, and Attachment 3; and
- C. any other provisions of the Agreement, including materials incorporated by reference.

## **XIII. ASSIGNMENT**

The work to be provided under this Agreement, and any claim arising under this Agreement is not assignable or delegable by either party in whole or in part, without the express prior written consent of the other party, which consent shall not be unreasonably withheld.

## **XIV. WAIVER**

A failure by either party to exercise its rights under this Agreement shall not preclude that party from subsequent exercise of such rights and shall not constitute a waiver of any other rights under this Agreement unless stated to be such in a writing signed by an authorized representative of the party and attached to the original Agreement.

## **XV. SEVERABILITY**

If any provision of this Agreement or any provision of any document incorporated by reference shall be held invalid, such invalidity shall not affect the other provisions of this Agreement which can be given effect without the invalid provision, if such remainder conforms to the requirements of applicable law and the fundamental purpose of this agreement, and to this end the provisions of this Agreement are declared to be severable.

## **XVI. ENTIRE AGREEMENT**

This Agreement contains all the terms and conditions agreed upon by the parties. No other understandings, oral or otherwise, regarding the subject matter of this agreement shall be deemed to exist or to bind any of the parties hereto.

## **XVII. CONTRACT ADMINISTRATION**

A designated contract administrator for each of the parties shall administer this Agreement and be responsible for and shall be the contact person for all communications and billings regarding the performance of this Agreement.

The Contract Administrator for WSU is:

Name: Adam Williams  
Department: Entomology  
Address: PO Box 646382  
Washington State University  
Pullman, WA 99164-6382  
Telephone: 509-335-5425  
Fax Number: 509-335-1009

The Contract Administrator for SFCC is:

Name: Doug Mitchell/Lauren D. Hansen  
Department: Biology Department MS 3280  
Address: Spokane Falls Community College  
3410 W. Fort Wright Drive  
Spokane, WA 99224  
Telephone: 509-533-3666  
Fax Number:

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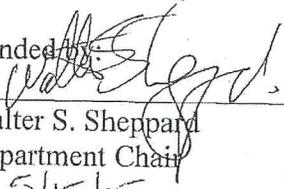
**XVIII. SIGNATURES**

The parties affirm they have designated the persons below to have signature authority for the parties. By their signatures on this Agreement, the parties agree to all of its terms and conditions.

**WASHINGTON STATE UNIVERSITY**

("WSU")

Recommended by:

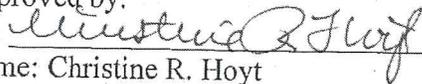
By: 

Name: Walter S. Sheppard

Title: Department Chair

Date: 5/15/15

Approved by:

By: 

Name: Christine R. Hoyt

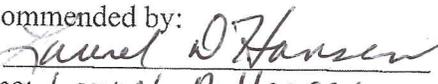
Title: Contracts Manager

Date: 5-20-15

**SPOKANE FALLS COMMUNITY COLLEGE**

("SFCC")

Recommended by:

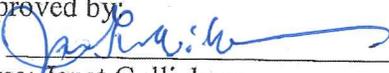
By: 

Name: Laurel O. Hansen

Title: Project Director

Date: 1 June 2015

Approved by:

By: 

Name: Janet Gullickson

Title: President

Date: June 1, 2015

**PROPOSAL: Norm Ehmann Urban Pest Management Award**

**Submitted by:**

Laurel D. Hansen  
Biology Department MS 3280  
3410 W Fort Wright Drive  
Spokane, WA 99224  
509-533-3666  
[laurel@spokanefalls.edu](mailto:laurel@spokanefalls.edu)

**TITLE:**

**Inventory of exotic ants in the Pacific Northwest with specific reference to: European fire ants (*Myrmica rubra*), Argentine ants (*Linepithema humile*), velvety tree ants (*Liometopum* spp.) and odorous house ants (*Tapinoma sessile*)**

**Rationale and Significance:**

Contacts with Pest Management Professionals (PMPs) in the Pacific Northwest and personal observations indicate populations of pest ants have shifted in the last 30 years. Carpenter ants as the major pest have been replaced with odorous house ants in Western Washington and velvety tree ants in Eastern Washington. This information is anecdotal and requires verification. Other reports of establishment of Argentine ants and European fire ants, not previously reported, have been documented in Seattle. The distribution of both of these ants also needs verification.

Reasons for changes in pest ant populations may be due to chemical treatments, climatic changes, housing developments, landscaping practices, introduction through commerce or a combination of these and other factors. There is not good baseline data that documents pest ants in urban areas but there are taxonomic records of ants available at the James Museum at Washington State University and the survey completed by Hoey-Chamberlain *et al.* 2010.

Recent reports of Argentine ants through a large area of Seattle and European fire ants in the University of Washington Arboretum plus other areas of Seattle prompts the need for an inventory to determine the spread of these two ants. Both species are considered exotic or tramp ants. In addition, the distribution of two native ants: odorous house ants and velvety tree ants, is also in question. Again these two species have been reported in new areas and this information requires verification. Although these are native ants, their behavior mimics exotic ants and these ants have been labeled as such by Buczkowski and Bennett 2008a.

These four species were selected for study because of their status as pest ants and because of similarities (Hansen and Antonelli 2010). All are tramp ants with multiple nesting sites (polydomy) and multiple queens (polygyne). These two factors make these ants difficult to

control. These ants do not produce mating flights and spread chiefly by budding. The European fire ant (not to be confused with the Red Imported Fire Ant, *Solenopsis invicta*) belongs to the Subfamily Myrmicinae, is an aggressive stinging ant and can be a health hazard (Higgins 2013). Odorous house ants, velvety tree ants, and Argentine ants all belong to the Subfamily Dolichodorinae and will not sting. Of the latter three ants, the velvety tree ant is wood-destroying, and all three are considered major nuisance ants because of their very large, mobile, and transient colonies (Hansen 2014). Observations of each of these species indicate they eliminate other native species of ants (Klotz 2008).

*Myrmica rubra*, European fire ant, was collected in Seattle in 1988 but was not recognized as a pest species until 2006 when it was collected in Evergreen Arboretum, and also in Vancouver and Victoria, B.C. This ant, native to Europe and Asia, was discovered in Massachusetts in 1908 (Grodén *et al.* 2004, 2005) and has spread throughout the New England states and as far south as Pennsylvania. It has also spread north into the southeastern provinces of Canada and in a recent survey of pest ants in Canada; the ant was collected as far west as Toronto (Hansen 2013). An interesting aspect of this ant in North America is that flights have not been observed. Mating occurs in the nest and mated females walk or are carried by commerce to new locations (Grodén 2005).

Robert Higgins, Thompson Rivers University, Williams Lake, B.C. has mapped areas affected by this ant in B.C. and outlined potential habitats that include green areas with a mean annual temperature of 42°F and precipitation above 27 in/year. Higgins (2012, 2013) prepared an analysis of the economic impact of the European fire ant in B.C. His preliminary damage estimate for this ant was \$100,000,901 CAD annually. This included health damages combined with damages to property, schools, and municipalities including treatment costs. As the ant is established in the Seattle area (Evergreen Arboretum) and the Puget Sound area fits the environmental parameters of southern B.C., PMPs need to be aware of the potential threat of this ant.

*Linepithema humile*, Argentine ant, has been observed in the University of Washington area of Seattle for several years and was recently reported as far west as Woodland Zoo covering several square miles. This ant has been the scourge of Southern California and in many other areas in southern United States after the initial introduction at New Orleans (Klotz *et al.* 2008). Environmental parameters resemble the European fire ant in that it prefers a Mediterranean climate. This nuisance ant may have extremely large colonies that invade agricultural areas as well as households (Klotz *et al.* 2010).

The native ant species, (velvety tree ants and odorous house ants) are often referred to as exotic because in natural areas these ants live in small colonies and do not become a nuisance or wood-destroying pest. However in urban areas or near structures these ants live in much larger colonies and nest in materials not found in nature (Buczowski and Bennett 2008b). The velvety tree ants (2 species) invade structures and mine wood and insulation that resembles the nesting habits of carpenter ants (Hansen 2008). One species (*L. luctuosum*) occurs in drier habitats and is common in Eastern Washington and Northern Idaho while *L. occidentale* is found in areas with a higher humidity. Both species have been collected in the Columbia Gorge and Oregon. This ant has recently been reported

in the Puget Sound area but needs verification. Odorous house ants are reported more commonly in Western Washington than in Eastern Washington although both areas can be infected.

Effective ant management by PMPs requires proper identification. PMPs need to recognize not only the ants in their area but also ants that may be introduced. As climate changes, as movement occurs of people and commercial products such as nursery and other landscaping materials, PMPs will encounter more exotic pests. Educational programs and publications for the pest management industry of extended ranges and inventory of these ants and will provide valuable information for management.

Brief comments from personal requests regarding the value of this project was received from the following:

1. Clinton Campbell-APHIS: 'extremely worthwhile-effects of introduced ants on local biodiversity.'
2. Eric LaGasa-AGR: 'increasingly important-economic and ecological impacts needed'
3. Todd Murray and Sharon Collman-WSU Extension: 'great idea; needed'
4. Chris Looney-AGR: 'information would be worthwhile: relative abundance of native vs tramp ants'
5. Robert Higgins-Three Rivers University, Williams Lake, BC: 'relevant information sorely needed for management'

### **Project Description**

Goals for this project include:

1. Inventory the distribution of European fire ants, Argentine ants, odorous house ants, and velvety tree ants.
2. Inventory of native ants in areas where the ants listed above are located.
3. Provide current information on these pest ants to the pest management industry through seminars and presentations.

The project will include two phases that will occur simultaneously:

1. Participation of PMPs in the field collecting and submitting samples and identifications made by our research team and communicated to the PMPs.
2. Visitation by our research team to specific sites for collections in areas with these ants and in natural areas. Sites to be determined with the assistance of PMPs and earlier reports. Natural areas to be selected that approximate infected areas.

Several pest management companies will be selected (minimum of 4 from Western Washington; 1 from Eastern Washington, 1 from Oregon) that will collect ants from every site that is inspected or treated from March 1 through October 30. My research team will meet with each company in January or February to view the procedures for collection and documentation. This meeting will include an informational presentation with the emphasis on the species listed above and examples of each for their review. Each company will be supplied with vials and mailers to be submitted each month. Contact will be made each

month to encourage sending specimens and documentation. Identifications will be made as the ants are submitted and communicated to the PMPS. Each company will be visited between April and October to determine areas for additional collections by our team.

Our research team will sample specific sites recommended by PMPs, sites where these pest ants were collected plus similar natural areas. We will also work with extension personnel, particularly in the Puget Sound area who have expressed an interest in this study. We are in regular communication with Western Washington Research personnel in Puyalup. Sites (minimum of 8) will include areas around Puget Sound, Bellingham, Vancouver, and Spokane. Sampling will be accomplished using a regimented sampling protocol including Winkler extraction (Agosti *et al.* 2000), baiting along a transect line (Sotz *et al.* 2004), and point sampling. Ants will be identified using available keys and recorded. Verifications of some samples will be sent to Rob Higgins, ant taxonomist at Thompson Rivers University (TRU).

Characteristics of each site will be recorded including: latitude, longitude, elevation, surrounding vegetation, percent ground cover, ground cover height, soil type, air temperature, and humidity.

Our research team will also visit with Rob Higgins, TRU to further look at the distribution of Argentine ants in Victoria and European fire ants in Victoria and Vancouver, BC. These infestations are believed to be older than those in Washington. Comparison of native species present with pest ants will be made.

Research Team: Laurel Hansen, Project director. Technicians employed at Spokane Falls Community College on research grants: Sharon Carroll, Jenifer Parker, and Arlana Neilsen. Technicians have been involved in ant research for the past 4-9 years. The project director has been involved in ant research since 1979.

## **Budget**

Travel to infestation sites:	
Mileage, lodging (3 people)	\$8,200
Travel to British Columbia:	
Mileage, lodging	1600
Technician hours	
(225 hours x 2 technicians)	6300
Benefits	690
Supplies (Vials, mailers, and Other collection equipment):	1800

No funds are requested as salary for the project director or indirect or overhead costs.

Total cost for this project will be \$18590. Funding for this project also will be requested from the Washington State Commission on Pesticide Registration who will provide matching funds if the project is approved. This reduces the cost to \$9,295.

## References

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- Buczkowski, G. and G. Bennett. 2008a. Aggressive interactions between introduced Argentine ant, *Linepithema humile* and the native odorous house ant, *Tapinoma sessile*. *Biol. Invasions* 10: 1001-1011.
- Buczkowski, G. and G. Bennett. 2008b. Seasonal polydomy in a polygynous supercolony of the odorous house ant, *Tapinoma sessile*. *Ecol. Entomol.* 33: 780-78.
- Groden, W., F. Drummond and L.B. Stack. 2004. European fire ant: a new invasive insect in Maine. *Univ. Maine Coop. Ext. Bull.* 2550.
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- Klotz, J., L. Hansen, R. Pospischil, M. Rust. 2008. *Urban Ants of North America and Europe*. Ithaca, NY: Comstock Publishing Associates. 196 pp.
- Sotz S. R., Tschinkel W. R. 2004. Distribution, spread, and ecological associations of the introduced ant *Pheidole obscurithorax* in the southeastern United States. *J. Insect Science* 4:12.

## **Norm Ehmann Urban Pest Management Award August 2014 RFP**

**Request for proposals:** Researchers or educators involved with urban pest management problems which occur in the Pacific Northwest are invited to apply. Research may be conducted outside the Northwest if it involves pests that also occur in the Northwest, like bed bugs.

**Purpose:** This endowment was developed through donations from the Oregon and Washington Pest Management Associations, the Pacific Northwest Pest Management Conference and a variety of pest control industry suppliers. It is intended to support research and extension and/or educational activities relevant to Urban Pest Management issues.

**Funding:** Proposals are welcome from all Urban Pest Management researchers and extension educators, but we do expect the proposed research and training to include pests that are located in the Pacific Northwest. The amount of each grant has not been established, but we are planning for a total amount of up to \$30,000 to be made available for this funding period (January 1, 2015 – December 31, 2015). It is expected that one or more projects will be funded. The selection committee encourages applicants to seek matching funds from supporting agencies, such as the Washington State Commission on Pesticide Registration and the Pacific Northwest Pest Management Conference.

**Evaluation and Selection Criteria:** Research and Extension Proposals addressing all Urban Pest Management issues will be accepted, with priority placed on those addressing pests in the Pacific Northwest such as:

- Odorous house ants, carpenter ants and other pestiferous ants
- Bed bugs
- Subterranean termites, anobiid beetles, and other wood-destroying organisms.
- Yellowjackets and other wasps.
- Arthropod pests of all stored products
- Mosquitoes and other medically important arthropods
- Rodents
- Training workshops or programs for Pest Control technicians

**Proposal format:** Proposals are limited to 5 pages with 12-point font size and one-inch margins. Applicants should include a two-page vitae as an addendum.

**Rationale and Significance:** Each proposal should contain a detailed description of the pest problem and its impact on the affected industry and/or stakeholders.

**Project Description:** Provide a detailed description of the project including objectives, procedures (including statistical design parameters and analysis when appropriate), time line, matching funds and personnel.

**Deadline:** Proposals will be accepted until September 15, 2014. Submit one electronic or written copy of the proposal to Ehmann Committee Chair, Department of Entomology, Washington State University, Pullman, WA, 99164-6382 ([entomology.office@wsu.edu](mailto:entomology.office@wsu.edu)). The applicants will be notified of the selection committee choice by October 1, 2014.

**Budget:** A budget narrative and totals must be provided for salaries and benefits, hourly wages, required travel, equipment, and other related expenses. Indirect or overhead costs are not permitted.

**Reporting:** Mid-term and final progress reports are required for funded projects (June 30, 2015 and January 15, 2016, respectively). At the request of the Norm Ehmann Urban Pest Management Award Committee, the researcher may be asked to make a presentation at the annual meeting of the Pacific Northwest Pest Management Association. Funding to attend this meeting will be provided by the Association and should not be included in the proposal.

Laurel D. Hansen, Ph.D.  
Biology Department MS 3280  
3410 W Fort Wright Drive  
Spokane, WA 99224  
509-533-3666

Dear Dr. Hansen,

Thank you for submitting the "Inventory of exotic ants in the Pacific Northwest with specific reference to: European fire ants (*Myrmica rubra*), Argentine ants (*Linepithema humile*), velvety tree ants (*Liometopum* spp.) and odorous house ants (*Tapinoma sessile*)" proposal to the Norm Ehmann Pest Management Award. The committee takes every proposal under serious review and consideration to further our directive. Often we find we have more proposals worthy of support than we have funding available, and this year was no exception. Within the limit of allotted support, the Ehmann committee was able to fund your proposal this year for the amount of **\$9,295**. Please have your grant/award personnel coordinate with Adam Williams at [adam.williams@wsu.edu](mailto:adam.williams@wsu.edu), to facilitate an award contract to administer funding. We wish you the best of luck with your research and look forward to your results.

Respectfully,

Norm Ehmann Award Committee  
Department of Entomology  
Washington State University  
PO Box 646382  
Pullman, WA 99164-6382