NAME: Melissa K. Fierke, Associate Professor, Forest Entomology

I. INSTRUCTIONAL ACTIVITIES

1. Regular Course Offerings

<table>
<thead>
<tr>
<th>Course No.</th>
<th>Title</th>
<th>Credit Hrs.</th>
<th>No. Students</th>
<th>No. of Lab. Sections</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUMMER:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EFB202</td>
<td>Ecol. Monit. &amp; BioAssessment</td>
<td>3</td>
<td>204</td>
<td>Session A, C, &amp; D</td>
</tr>
<tr>
<td>FALL:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EFB101</td>
<td>General Biology I</td>
<td>3</td>
<td>348</td>
<td></td>
</tr>
<tr>
<td>EFB797</td>
<td>EFB Core Course (w/ S. Farrell)</td>
<td>1</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>SPRING:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EFB797</td>
<td>EFB Core Course (w/ J. Cohen)</td>
<td>1</td>
<td>12</td>
<td></td>
</tr>
</tbody>
</table>

NOTE: PLEASE INDICATE WHICH COURSE(S) HAD A SERVICE-LEARNING COMPONENT AND BRIEFLY EXPLAIN THE NATURE OF THIS COMPONENT. For examples of service-learning in courses, see: http://www.esf.edu/students/service/courses.htm. Service-learning is a form of structured experiential education in which students engage with the community to be active learners, to enrich their sense of civic responsibility, and to explore practical application for course content. Faculty oversight, reflective thinking, and reciprocity are key components of service-learning. None.

2. Non-Scheduled Course Offerings (e.g., 496, 899, 999)

<table>
<thead>
<tr>
<th>Course No.</th>
<th>Title</th>
<th>Credit Hrs.</th>
<th>No. Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>FALL:</td>
<td>EFB495 UG College Teaching</td>
<td>19</td>
<td>12</td>
</tr>
<tr>
<td>EFB898</td>
<td>Professional Experience</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>SPRING:</td>
<td>EFB298 Research Internship</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>EFB420</td>
<td>Internships</td>
<td>3</td>
<td>1</td>
</tr>
</tbody>
</table>

3. Continuing Education and Extension (short courses, workshops, etc.): None.

4. Guest Lecture Activities: None.

II. STUDENT ADVISING

A. Number of undergraduates for whom you are the student’s official advisor 22 and unofficial advisor 2.

   Reader on UG Honor’s theses: Matt Amoia (T. Horton main advisor):
   Effects of hemlock woolly adelgid on ectomycorrhizal fungi associated with eastern hemlock in central New York

B. Graduate Students: (list name, degree sought, starting date, month & year; if a degree was completed, please give date and full citation for the thesis or dissertation).

MAJOR PROFESSOR

<table>
<thead>
<tr>
<th>Name</th>
<th>Degree</th>
<th>Date</th>
<th>Title of Thesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Michael Jones</td>
<td>PhD</td>
<td>08/13</td>
<td>Effects of sugar resources on longevity of two emerald ash borer (<em>Agrilus planipennis</em>) parasitoids</td>
</tr>
<tr>
<td>Dana Brennan</td>
<td>MS</td>
<td>05/15–05/17</td>
<td></td>
</tr>
<tr>
<td>Jane Rafaldi</td>
<td>MPS</td>
<td>08/15–12/16</td>
<td>Co-occurring invasives and landowner</td>
</tr>
</tbody>
</table>
awareness of invasive giant hogweed (*Heracleum mantegazzianum*)

<table>
<thead>
<tr>
<th>Name</th>
<th>Degree</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Erica McPhail</td>
<td>MS</td>
<td>05/16</td>
</tr>
<tr>
<td>Abigail Jago</td>
<td>MS</td>
<td>05/17</td>
</tr>
<tr>
<td>Suvo Biswas</td>
<td>MS</td>
<td>05/17</td>
</tr>
</tbody>
</table>

**CO-MAJOR PROFESSOR**

<table>
<thead>
<tr>
<th>Name</th>
<th>Degree</th>
<th>Year</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Giuseppe Tuminello (w/ T. Volk)</td>
<td>MS</td>
<td>08/14–12/16</td>
<td>Insect pollinators of a short rotation coppice willow biomass agroecosystem</td>
</tr>
<tr>
<td>Nickolas Piedmonte (w/ S. Shaw)</td>
<td>MS</td>
<td>01/15–5/17</td>
<td>Black legged ticks, <em>Ixodes scapularis</em> (Say), in central NY: density, distribution, and prevalence of associated human pathogens</td>
</tr>
<tr>
<td>Jessica Van Splinter (w/ C. Nowak)</td>
<td>MS</td>
<td>08/16</td>
<td></td>
</tr>
<tr>
<td>Jade Johnson (w/ B. Folta)</td>
<td>MS</td>
<td>08/16</td>
<td></td>
</tr>
<tr>
<td>Xue Dong (w/ B. Folta)</td>
<td>PhD</td>
<td>08/16</td>
<td></td>
</tr>
</tbody>
</table>

**MEMBER, STEERING COMMITTEE** (other than those listed above)

<table>
<thead>
<tr>
<th>Name</th>
<th>Degree</th>
<th>Year</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geoffrey Griffiths</td>
<td>PhD</td>
<td>08/14</td>
<td></td>
</tr>
<tr>
<td>Ryan Smith</td>
<td>MS</td>
<td>08/14</td>
<td></td>
</tr>
<tr>
<td>Elizabeth Stieber</td>
<td>MS</td>
<td>08/15</td>
<td></td>
</tr>
<tr>
<td>Marianos Arias</td>
<td>PhD</td>
<td>08/15</td>
<td></td>
</tr>
<tr>
<td>Patricia Kashian</td>
<td>PhD</td>
<td>08/15</td>
<td></td>
</tr>
<tr>
<td>Aaron Brown</td>
<td>MS</td>
<td>08/14–05/17</td>
<td>Unintended impacts of the transgenic American chestnut (Fagales: Fagaceae) on Lepidopteran entomopathogen efficacy and parasitoid success</td>
</tr>
</tbody>
</table>

**CHAIRMAN OR READER ON THESIS EXAMS, ETC.**

<table>
<thead>
<tr>
<th>Name</th>
<th>Degree</th>
<th>Year</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jeffrey Lombardo</td>
<td>PhD Exam.</td>
<td>10/16</td>
<td>Climate change and the effect of temperature on southern pine beetle</td>
</tr>
<tr>
<td>Thomas Evans</td>
<td>PhD Exam.</td>
<td>05/17</td>
<td>Evaluation of lamprey populations with natural and artificial tags to understand evolution of lamprey life histories</td>
</tr>
<tr>
<td>Dustin Hill</td>
<td>MS Chair</td>
<td>03/17</td>
<td>Social and environmental vulnerability: unequal effects of point source pollution production and government sponsored industry</td>
</tr>
</tbody>
</table>

### III. RESEARCH COMPLETED OR UNDERWAY

A. Departmental Research (unsupported, boot-legged; title - % time spent):

I am working on a project to quantify dispersal of emerald ash borer parasitoids along a linear corridor. Cooperators include USDA APHIS, USDA ARS, NYDEC, NYDAM, New York State Parks, Genesee Land Trust, Scottsville Emerald Ash Borer Task Force. 2%.

B. 1. Grant-supported Research (source, subject, amount - total award and current year, award period starting and ending dates; list graduate research assistants supported by each grant)

C. Nowak, **M.K. Fierke** (co-PIs). Exploring pollinator dynamics on powerline corridors in the Northeastern United States. Electric Power Research Institute. 05/2016–08/2021. $628,146. Supports Jessica VanSplinter and Erica McPhail, both MS students, as well as multiple grad & UG technicians.

**M.K. Fierke.** Geographical comparisons of the synchrony and phenology of emerald ash borer and its introduced larval parasitoids in New Your State. 04/15–05/18. $360,000. Cooperative Workplan with
J. Gould, USDA APHIS. Supports PhD student Michael Jones, MS grad Suvo Biswas and several technicians.

**M.K. Fierke.** Assessing compatibility of insecticides and biocontrol for controlling emerald ash borer in urban environments. 05/15–05/18. $66,000. Cooperative Workplan with J. Gould, USDA APHIS. Partially supports PhD student Michael Jones and multiple summer UG technicians.


S. Shaw, **M.K. Fierke.** Elucidating characteristics of forest/residential land interfaces associated with increased risk of tick-borne diseases. McIntire-Stennis Cooperative Forestry. 08/15–09/17. $59,694. Nick Piedmonte, MS.

G.G. McGee, **M.K. Fierke.** Nutrient resources associated with establishment and long-term maintenance of emerald ash borer biocontrol agents. McIntire-Stennis Cooperative Forestry. 08/14–05/17. $53,860. Molly Hassett, Stephen Pecylak, and Dana Brennan, all MS.

2. Research Proposals pending (include information as in B.1., above). None.

3. Research Proposals submitted, but rejected (include information as in B.1, above). None.

**IV. PUBLICATIONS** (Full bibliographic citation, i.e., do not use "with Jones," or "Jones, et al.": please list only publications published, in press, or actually submitted during this reporting period --- **do not list manuscripts in preparation**).

A. Refereed Publications


B. Non-refereed Publications

C. Papers Presented at Science Meetings (give title, date, occasion, and location)


D. Public Service Presentations (lectures, seminars, etc. to and for the public; give group or occasion, date(s), and attendance)


Media

Southeastern Neighborhood Association: Ticks and Tick-borne Disease in Onondaga County. April 2016. Syracuse NY. ~70 attendees (including Syracuse Mayor Miner).
http://www.syracuse.com/outdoors/index.ssf/2017/03/deer_tick_warning_suny_esf_tells_students_to_be_on_lookout_this_winter.html


E. Invited Research Presentations


M.K. Fierke. Forest Entomology and Beyond: Ticks/Lyme and Pollinators. 03/2017, SUNY Potsdam, NY. Deferred to PhD student.


V. PUBLIC SERVICE

A. Funded Service (include consulting activities)

1. Government Agencies (Federal, State, Local): None

2. Industrial and Commercial Groups, etc.: None

B. Unfunded Service to Governmental Agencies, Public Interest Groups, etc.

Serve on the City of Syracuse Emerald Ash Borer Task Force attending meetings with other collaborators, e.g., the Syracuse City Arborist, Cornell Cooperative Extension, Onondaga Director of the Environment.

Answered questions from the public on insects/arthropods throughout the reporting period.

Serve on the Advisory Board for New York Natural Heritage’s efforts on native New York pollinators.

VI. PROFESSIONAL DEVELOPMENT

A. Professional Honors and Awards (for teaching, research, outreach, etc.)

B. 1. Activities in Professional Organizations (offices held, service as chairman, member, participant or consultant)

2. Professional Society Membership

Entomological Society of America
3. **Other Professional Activities**

   a. Editorial activity – Associate Editor, Forest Science (Society of American Foresters)

   b. Reviewer

<table>
<thead>
<tr>
<th>Journal(s)</th>
<th>No. of manuscripts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canadian Journal of Forest Research</td>
<td>1</td>
</tr>
</tbody>
</table>

   c. Participation (workshops, symposia, etc.): None

C. **Further Education/Re-training Undertaken, Leaves, Workshops, etc.,**

D. **Foreign Travel (Where, When, Purpose)**

**VII. ADMINISTRATIVE AND SERVICE RESPONSIBILITIES (include committee participation)**

A. **Department-level**
   - Graduate Program Advisory Committee – Revised the EFB Graduate Student Handbook
   - Scholarship committees: Roskin undergraduate award to outstanding female senior
     - Chun Wang to outstanding female senior undergraduate award
   - Outstanding PhD student award
   - Lanier, Stegeman, and Simeone Endowed Entomology Fellowships

B. **College-level**
   - Secretary, Faculty Governance
   - Faculty Governance Executive Committee
   - Co-Chair, Bicycle Safety Committee
   - Sustainability Committee
   - Athletics Committee
   - First Year Experience Committee
   - Graduate Assistant Colloquium on Teaching and Learning Blackboard training
   - ESF in the HS biology course, in collaboration with Outreach and local high school teachers and administrators, now offered in 4 local high schools
   - December and May Senior Soirees

C. **University-wide, including Research Foundation**

**VIII. SUMMARY OF SIGNIFICANT ACTIVITIES AND ACCOMPLISHMENTS DURING THIS REPORTING PERIOD, ESPECIALLY THOSE MOST NOTEWORTHY AND RELATIVE TO THE COLLEGE’S AND DEPARTMENT’S MISSION.**

**One paragraph on each of the following (i.e., three paragraphs total) would be most helpful:** this past year, what have you done for our students, department/college, and self professionally? NOTE: The information in this section (along with the supporting specific information elsewhere in this report) should be your strongest case for being considered for a discretionary raise (when available), which I’ll continue to award based on your contributions to the department and college this reporting period.
I had close to 350 students in freshman GenBio this past fall for which I supervised three graduate and 12 undergraduate teaching assistants along with their workshops and grading - all went smoothly with overall class evaluations again strong for the two lecture sections. I co-facilitated the fall EFB Core Course for graduate students this year with Shannon Farrell, who does the Philosophy of Science section half of the class. Our main goal for the course is to get grads off to a good start in the department, forming a supportive cohort of students. I also co-facilitated the spring core course with Jonathan Cohen with the primary goal of all grads writing a solid research proposal. I’ve written >30 UG student recommendation letters with many resulting in successful internships or positions. I am happy with the current state of my research program and the progress of my current graduate students. We’ve had several publications come out and I am still working with several others on their publications. My graduate students have presented at many venues, locally and nationally. I currently have five graduate students working out of my lab as well as five ESF undergraduates hired on multiple research projects for the summer. I have taken on my first international student who will be working on monitoring emerald ash borer parasitoids.

I spent a considerable amount of time revising EFB’s Graduate Handbook. I served on several college committees as well as taking an active part in the ESF First Year Experience Committee, working with other faculty on student retention and success. I have continued my efforts on our ESF Bicycle Safety Committee and have been working with ESF partners, Syracuse University engineers, planners and safety officials as well as the new City of Syracuse Transportation Planner, and multiple neighborhood groups to make bicycling a safer commuting option for faculty, staff and students at ESF. I’ve continued my entomology outreach efforts, doing presentations and media interviews, however, I now pass most opportunities to my graduate students who are doing an excellent job of taking them on, being enthusiastic and getting our science out there.

I have continued building relationships and received continued funding on emerald ash borer research – all of which contributes to recognition and employment opportunities for students as they graduate from my lab. Working on the tick/Lyme research has been rewarding and has contributed to informing the actions of local and county efforts on deer management. Our research on pollinator conservation is exciting and I look forward to contributing to this extremely important topic relevant to entomological/conservation issues.

IX. A. FUTURE PLANS, AMBITIONS, AND POTENTIAL CONTRIBUTIONS FOR YOUR OWN PROFESSIONAL DEVELOPMENT AND THE ENHANCEMENT OF THE PROGRAM IN ENVIRONMENTAL AND FOREST BIOLOGY (brief summary)

This fall I will again be teaching General Biology as well as co-facilitating EFB’s Core Courses in the fall and spring semesters. I will teach Systematic Entomology Spring 2018 and will continue my outreach and service efforts on behalf of ESF and EFB. I will attend the 2017 Entomological Society of America conference as well as others the coming year as my teaching load allows.

I am very much looking forward to continuing work with my graduate students, mentoring them through graduate school, facilitating their research projects, making sure they publish their results, and cultivating professional positions for them. I look forward to continuing research on pollinators with Chris Nowak and wrapping up projects, including the tick/Lyme project and the NSRC EAB project.

B. PROJECTED ACTIVITIES FOR NEXT YEAR

1. Summer 2017

   a. Course(s) to be offered: 3 sessions of EFB202 (~180 students), teach sampling/entomology/stats
   Facilitate BOCES high school program

   b. Proposed research activity
   I will be spending time on the EAB studies my lab is funded for - including the Phenology and IPM grants as well as the parasitoid dispersal study south of Rochester. We are working closely with many cooperators: NYDEC, NYDAM, New York State Parks, Genesee Land Trust, Monroe County Emerald Ash Borer Task Force. We have already spent a couple of weeks this past spring and will continue into
the fall working on assessing the impact of emerald ash borer biological control on the health of ash trees in Ulster/Green and Cattaraugus Counties.

We have an UG hired to continue work on tick phenology in Onondaga County this summer and will work with Nick (who just finished his MS) in writing up his manuscripts.

I will again be investing time in coming up to speed on and working on pollinators in OH & NY this coming summer.

c. University, professional society, and public service
   Director, Cranberry Lake Biological Station

2. Fall Semester 2017

   a. Course(s) to be offered: EFB101  Gen Bio I: Organismal Biology and Ecology  3 credits  
      EFB796  EFB Core Course (w/ S. Farrell)  1 credit

   b. Proposed research activity: Emerald ash borer, ticks, & pollinator research.

   c. University, Professional society, and public service
      EFB Associate Chair
      Co-chair, Bicycle Safety Committee
      Sustainability Committee
      First Year Experience Committee
      Athletics Committee
      EFB Graduate Program Advisory Committee
      Review manuscripts and grants as called upon and as time permits

3. Spring Semester 2018

   a. Course(s) to be offered: EFB566 Systematic Entomology  3 credits

   b. Proposed research activity: Emerald ash borer, ticks, & pollinator research.

   c. University, professional society, and public service
      EFB Associate Chair
      Co-chair, Bicycle Safety Committee
      Sustainability Committee
      First Year Experience Committee
      Athletics Committee
      EFB Graduate Program Advisory Committee
      Review manuscripts and grants as called upon and as time permits