NAME: ___ Christopher M. Whipps ________________________

I. INSTRUCTIONAL ACTIVITIES

1. Regular Course Offerings

<table>
<thead>
<tr>
<th>Course No.</th>
<th>Title</th>
<th>Credit</th>
<th>Hrs.</th>
<th>No. of Lab.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUMMER:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
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<td></td>
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<tr>
<td>FALL:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EFB453</td>
<td>Parasitology</td>
<td>3cr</td>
<td>20</td>
<td>1</td>
</tr>
<tr>
<td>EFB653</td>
<td>Parasitology</td>
<td>3cr</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>EFB797</td>
<td>Population Genetics</td>
<td>1cr</td>
<td>8</td>
<td>0</td>
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</table>

SPRING:

<table>
<thead>
<tr>
<th>Course No.</th>
<th>Title</th>
<th>Credit</th>
<th>Hrs.</th>
<th>No. of Lab.</th>
</tr>
</thead>
<tbody>
<tr>
<td>EFB103</td>
<td>General Biology II: Cell Biology and Genetics</td>
<td>3cr</td>
<td>172</td>
<td>0</td>
</tr>
<tr>
<td>EFB797</td>
<td>Host-Pathogen Interactions</td>
<td>1cr</td>
<td>4</td>
<td>0</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.

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

<table>
<thead>
<tr>
<th>Course No.</th>
<th>Title</th>
<th>Credit</th>
<th>Hrs.</th>
<th>Students</th>
</tr>
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<tbody>
<tr>
<td>FALL 2015:</td>
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<tr>
<td>BTC298</td>
<td>Rsrch Apprenticeship/Biotech</td>
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<td>1</td>
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<tr>
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<td>1</td>
<td></td>
</tr>
<tr>
<td>BTC420</td>
<td>Internship in Biotechnology</td>
<td>3</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>BTC498</td>
<td>Resrch Prob/Biotechnology</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>BTC498</td>
<td>Resrch Prob/Biotechnology</td>
<td>2</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>BTC498</td>
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<td>1</td>
<td></td>
</tr>
<tr>
<td>EFB420</td>
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<td>EFB498</td>
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<td></td>
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<tr>
<td>EFB899</td>
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<td>1</td>
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<tr>
<td>EFB899</td>
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<td>EFB899</td>
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<tr>
<td>EFB999</td>
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SPRING 2016:

BTC420 Internship in Biotechnology 1 1
BTC420 Internship in Biotechnology 3 1
BTC498 Resrch Prob/Biotechnology 3 2
EFB298 Rsrch Internship/Envrn Biology 1 1
EFB495 Undergrad Exp/Coll Teach 1 3
EFB498 Independent Research/Envrn Bio 3 1
EFB898 Professional Experience 4 1
EFB899 Masters Thesis Research 1 1
EFB999 Doctoral Thesis Research 7 1
ESF499 Honors Thesis/Project 2 1

3. Continuing Education and Extension (short courses, workshops, etc.)


4. Guest Lecture Activities

<table>
<thead>
<tr>
<th>Course No.</th>
<th>Title</th>
<th>No. of Lectures</th>
</tr>
</thead>
<tbody>
<tr>
<td>EFB217</td>
<td>Peoples, Plagues, and Pests</td>
<td>1</td>
</tr>
<tr>
<td>EFB797</td>
<td>Graduate Student Core Course</td>
<td>1</td>
</tr>
<tr>
<td>BTC132</td>
<td>Biotech Orientation</td>
<td>1</td>
</tr>
</tbody>
</table>

II. STUDENT ADVISING

A. Number of undergraduates for whom you are the student’s official advisor _27_ and unofficial advisor _8_

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


2. Carolyn Chang, PhD sought. Start Jan 2014
3. Cassandra Elliott, MPS sought. Start Jan 2015

CO-MAJOR PROFESSOR

2. Emily Gavard, MS sought. Start Sept 2013 (co-advise with Dr. Sadie Ryan)
3. Samantha Mello, MS sought. Start Aug 2015 (co-advise with Dr. Jonathan Cohen)

MEMBER, STEERING COMMITTEE (other than those listed above)

Completed in Review Period (2)
Lauren Goldmann, PhD complete Summer 2015 (MP Weir)
Christopher Foelker, PhD complete Fall 2015 (MP Fierke)

*Ongoing (5)*
Geoffrey Eckerlin, PhD candidate (MP Farrell)
Andrew MacDuff, MS sought (MP Frair)
Amanda Cheeseman, PhD sought (MP Cohen)
Tess Youker, MS sought (MP Ryan)
Eric Diefenbacher, PhD sought (MP Gibbs)

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

Katherine Lenkiewicz, MS, Spring 2016 (MP Luzadis)

**III. RESEARCH COMPLETED OR UNDERWAY**

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

- Myxozoan parasites of amphibians (boot-legged - 1%)
- Parasite fauna of Brazilian and Mexican fishes (boot-legged 2%)
- Survey of wild fish parasites in the Great Lakes and Adirondacks (boot-legged 5%)

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)


**Whippes CM, Fierke MK, Parry D. USDA-CREES/McIntire-Stennis Program (05/01/13-09/30/15) - $52,000. Development of Molecular Techniques to Inform Management of *Sirex noctilio*, an Introduced Woodwasp. (10% AY) Role: Lead development of molecular biology techniques in parasitoid insects. Supports: Christopher Foelker, PhD Student.**


**Alger KE, Whippes CM. New York DEC (6/1/14-4/30/17) $25,500. Lymphoproliferative Disease Virus (LPDV) in Wild Turkeys (*Meleagris gallopavo*) in New York State, U.S. Supports: Katrina Alger, MS Student.**
**Whips CM.** New York DEC (04/01/14-4/30/17) $132,222. Increasing Capacity for Genetic Analysis at SUNY ESF


2. Research Proposals pending (include information as in B.1., above).

3. Research Proposals submitted, but rejected (include information as in B.1, above)

**Whips, C.M.,** Chang, C.T. American Association for Laboratory Animal Science; Grants for Laboratory Animal Sciences (06/15/16-06/14/17). $29,500. Investigating vector transmission of *Mycobacterium* spp. in laboratory zebrafish through live feeds.

**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)


April 19, 2016. SUNY-ESF Spotlight on Student Research, Syracuse, NY. Investigating tolerance, growth, and fecundity of laboratory zebrafish (Danio rerio) treated with clarithromycin and tigecycline antibiotics. Doerr, K.M., Chang, C.T., Whipps, C.M.
April 19, 2016. SUNY-ESF Spotlight on Student Research, Syracuse, NY. Investigating transmission of Mycobacterium spp. from experimentally infected zebrafish (Danio rerio) to tank biofilms. Adler, A., Chang, C.T., Whipps, C.M.


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

V. PUBLIC SERVICE

A. Funded Service (include consulting activities)

1. Government Agencies (Federal, State, Local):

2. Industrial and Commercial Groups, etc.

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

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**
- American Fisheries Society
- American Society of Microbiology
- American Society of Parasitologists
- American Association for Laboratory Animal Science

3. **Other Professional Activities**
   a. Editorial activity

<table>
<thead>
<tr>
<th>Journal (s)</th>
<th>Responsibility</th>
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</thead>
<tbody>
<tr>
<td>Journal of Parasitology</td>
<td>Associate Editor (5 articles Nov 19/15-May 31/16)</td>
</tr>
</tbody>
</table>

   Other (books, symposia, etc.)

   b. Reviewer

<table>
<thead>
<tr>
<th>Journal(s)</th>
<th>No. of manuscripts</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFS Books</td>
<td>1</td>
</tr>
<tr>
<td>Diseases of Aquatic Organisms</td>
<td>1</td>
</tr>
<tr>
<td>International Journal for Parasitology</td>
<td>1</td>
</tr>
<tr>
<td>Journal of Fish Diseases</td>
<td>3</td>
</tr>
<tr>
<td>Journal of the American Association for Laboratory Animal Sci.</td>
<td>1</td>
</tr>
<tr>
<td>Northwestern Naturalist</td>
<td>1</td>
</tr>
<tr>
<td>Parasitology</td>
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<tr>
<td>Parasitology International</td>
<td>1</td>
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<tr>
<td>Parasitology Research</td>
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<tr>
<td>Systematic Parasitology</td>
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<tr>
<td>Zebrfish</td>
<td>2</td>
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   Total = 16

<table>
<thead>
<tr>
<th>Agency</th>
<th>No. of proposals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Binational Science Foundation</td>
<td>1</td>
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</tbody>
</table>

   Other

   c. Participation (workshops, symposia, etc.)

<table>
<thead>
<tr>
<th>Name of workshop, etc.</th>
<th>Date</th>
<th>Place</th>
</tr>
</thead>
</table>

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
EFB Disease Ecology/Epidemiology Search Committee (Oct 2015-Apr 2016). Chair: Christopher Whipps

B. College-level
ESF Institutional Animal Care and Use Committee (Aug 2011-present). Chair: Christopher Whipps
ESC Health and the Environment Curriculum Group Participant (Mar 2011-present)
ESF Academic Research Building Core Team (Apr 2010-present)

C. University-wide, including Research Foundation
SUNY Center for Applied Microbiology (Feb 2013 – present) Director

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.

Students

In my EFB103 General Biology class (of 172 students), I introduced two new teaching methods to increase engagement; 1) case studies, and 2) classroom response system. Cases are set up as narratives, where we learn about the story while delving more deeply into certain topics. They may be a mystery to solve or have a twist at the end. Students worked in groups and there was discussion around certain questions. Based on teaching reviews, these were well received. In conjunction with cases, I used a classroom response system (clickers) daily, and this was also well received. It allowed me to gauge student understanding on the spot, which can otherwise be difficult in a large class. For EFB453/653 Parasitology, I have always used brief case studies, requiring diagnoses of parasitic infections from the CDC, but I’ve also started using and developing my own narrative cases for this class. I taught a Fall seminar class EFB797 Population Genetics, and diverged from the journal club style format I often use for seminars. Instead, I incorporated lectures and assignments in the first part of the course, interspersed with discussions on papers. Then, I asked the students to present on a topic and develop their own in-depth assignments that would walk a student through an analysis in detail. Having to work through a paper in this detail added depth to the student’s engagement and learning.

For 5 months this past year, I welcomed a graduate student from Brazil, Leticia Vidal, to work in my laboratory. This was a mutually good experience. She was trained on molecular biology work which will contribute to her thesis, and from this will stem several manuscripts. In November, my Master’s student Katrina Alger successfully defended her thesis and is currently applying her newly developed skills in a very fitting position at the National Wildlife Health Center. Katrina already published a paper from her thesis, and has 2 more in the works. Another student, Kelly Huffman, completed her MPS. My PhD student Carolyn Chang published 3 papers, and was the recipient of the best student presentation award at the 2015 AFS Fish Health Meeting. In addition to graduate student mentoring, I had several undergraduate researchers (Ashley Adler, Kristen Doerr, Ilana Weinstein) and an honors
student (Julia Williamson) working on projects. I advise >20 undergraduate students, many of which are pre-health, and from several majors (Biotech, Environmental Biology, Conservation Biology, Wildlife Biology). I help organize internships, research courses, and apprenticeships.

Department/College

For EFB I serve on the departmental curriculum committee, where we contributed heavily to the departmental assessment of majors. I chaired the Disease Ecology/Epidemiology search this Spring. Chairing the search was and extremely demanding but rewarding experience, leading to the successful hire of Brian Leydet. At the college level, I chair the Institutional Animal Care and Use Committee (IACUC) which is currently overseeing 34 protocols on various vertebrate species (snakes, frogs, salamanders, birds, fish, moose, etc.). The work requires a great amount of attention, with regular monitoring of existing work in addition to processing new protocols as they come in. This year, ESF is also seeking Animal Assurance overseen by the Office of Laboratory Animal Welfare. This was necessary due to a new policy that requires NSF and NIH work involving vertebrate animals to have this Assurance, as well as existing work at ESF requiring it. I have written detailed protocols for ESF’s animal program, and the Assurance is currently being reviewed. At the SUNY level, I direct the Center for Applied Microbiology, which supports research on microbes (sensu lato), student travel, and equipment purchase.

Self

I was very pleased to be invited to serve as an Associate Editor for the Journal of Parasitology (JP). This is one of the most respected journals in the field with a rich history. Former ESF faculty Justus Mueller, well known for his books on Parasites of Oneida Lake Fishes in the Roosevelt Wildlife Annals (amongst many other accomplishments), was once the Editor of JP. I am glad to be a part of this connection in my own way. I served on the organizing committee for the AFS Annual Fish Health meeting this past summer in Ithaca, and the meeting was a success and I enjoyed being part of it. It was definitely a big job, but I learned a lot from the experience. I had several papers come out this year from ongoing collaborations and from student’s work. I always enjoy seeing a study published, particularly the works that came from undergrad and graduate research. In September, I attended a Conference on teaching with Case Studies in Buffalo. I’d recommend this to anyone thinking about using case-based learning in the classroom. Sessions covered how to integrate cases, how to write cases, tips on how to make them work well, how to use in large classes vs. small, etc. We also worked through a few different kinds of cases in groups to see how these work first hand. I was inspired to use cases more extensively in my classes, and had a great time using them in EFB103 this year.

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)

For research, I plan to drive to completion a complete set of genetic data on cottontail rabbits. The Northern Pike research with John Farrell will require careful histological analysis from me, and we will continue to collaborate with researchers at the University of Victoria on the genetics of pike. I plan to complete a genetic analysis of parasites of amphibians in the southeast. Working with an honors student and Melissa Fierke, I hope to complete the genetic work on parasitoid insects. My zebrafish disease research will come up for renewal this year, so significant time will be dedicated to writing that grant renewal and publishing on the existing work we are doing. For service, I will continue as chair of the IACUC, which has become more demanding. My goal is to focus primarily on this as my main service component. For teaching, I believe I’ve hit on something good with the case studies and clickers in my large class. I’ll continue to refine these applications and strive to make the classes better than they already are. One thing I will try is adding some online modules for parts of my main classes, where I will create short video/drawing recordings (in the style of Khan Academy) that cover a particular topic. I think this may be particularly useful in Parasitology where there are fewer of these kinds of resources.
B. PROJECTED ACTIVITIES FOR NEXT YEAR

1. Summer 2016
   a. Course(s) to be offered
   b. Proposed research activity
      Cottontail genetic identification and parasite analysis
      Zebrafish mycobacteriosis
      Molecular diagnostics of parasites
      Myxozoaan phylogeny and evolution
      Baseline data on fish diseases in NY state
      Northern Pike genomics
      Sirex noctilio molecular biology
      Genetics of deer and other species for DEC
   c. University, professional society, and public service
      ESF Institutional Animal Care and Use Committee (Aug 2011-present). Chair: Christopher Whipps
      ESC Health and the Environment Curriculum Group Participant (Mar 2011-present)
      SUNY Center for Applied Microbiology (Feb 2013 – present) Director

2. Fall Semester 2016
   a. Course(s) to be offered
      EFB453/653 Parasitology
   b. Proposed research activity
      as above
   c. University, professional society, and public service
      as above

3. Spring Semester 2017
   a. Course(s) to be offered
      EFB103 - General Biology II
   b. Proposed research activity
      as above
   c. University, professional society, and public service
      as above