ANNUAL REPORT: June 1, 2016 – May 31, 2017
(i.e., Summer 2016, AY 2016-2017)
DEPARTMENT OF ENVIRONMENTAL AND FOREST BIOLOGY
SUNY-ESF

*****PLEASE DO NOT INSERT TABLES FOR ANY CATEGORIES*****

NAME: J Scott Turner

I. INSTRUCTIONAL ACTIVITIES

1. Regular Course Offerings

	Course No.	Title	Credit Hrs.	No. Students	No. of Lab. Sections
SUMMER:	EFB200	Physics of Life	3	18	0
	EFB462	Animal Physiology	3	10	0
FALL:	EFB200	Physics of Life	3	158	0
	EFB462	Animal Physiology	3	20	0
	EFB662	Animal Physiology	3	0	0
	EFB500	Biology Field Trip	5	1	0

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)

None

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

None

4. Guest Lecture Activities

Course No.	Title	No. of Lectures
EFB211	Diversity of life	2

II. STUDENT ADVISING

A. Number of undergraduates for whom you are the student's official advisor 17 and unofficial advisor I have no idea what this means.

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).
Tiffany Deater, PhD, 2014.

MAJOR PROFESSOR

CO-MAJOR PROFESSOR
Tiffany L Deater, PhD, Sept 2014

MEMBER, STEERING COMMITTEE (other than those listed above)

CHAIRMAN OR READER ON THESIS EXAMS, ETC.

III. RESEARCH COMPLETED OR UNDERWAY

A. Departmental Research (unsupported, boot-legged; title - % time spent)
None

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)

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

Source	*Title*	*Amount*	*Current year*	*Award period*	*Graduate Assistants supported*
No proposals pending					

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

Source	*Title*	*Amount*	*Current year*	*Award period*	*Graduate Assistants supported*
ICOB National Science Foundation	*ICOB Concepts of Gas Exchange in Animal Burrow Systems*	*$620,428*	0	September 2015 to September 2018	0
PEER (USAID)	*Livestock behavioral adaptation to increasing temperatures in arid-land farming systems*	*$147,000*		January 2017 to December 2019	0
SNAPP	*Synthesized Accounts of Natural Grazing Attributes of Livestock for climate-smart agricultural production*	*$150,000*		January 2017 to December 2019	

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

None

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)

V. PUBLIC SERVICE

A. Funded Service (include consulting activities)

None

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

None

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

3. Other Professional Activities

a. Editorial activity

Journal(s)	Responsibility
Bio-Complexity	Editorial board
Intelligent Buildings International	Guest editor to special issue on biomimetic architecture

Other (books, symposia, etc.)

b. Reviewer

Journal(s)	*No of manuscripts*
Current Environmental Engineering	1
Biology and Philosophy	1
Comparative Physiology and Biochemistry	1
Philosophy and Technology	1
Interface. Journal of the Royal society	1
Nature	1
Oxford University Press	1
Acta Biotheoretica	1
Biology and Philosophy	1

Agency(s)	*No of manuscripts*
John Templeton Foundation	1
National Science Foundation	1

Other

c. Participation (workshops, symposia, etc.)

Name of workshop, etc.	Date	Place
International Congress of Entomology Symposium on Excavation and Construction by Social Insects.	29 September 2016	Orlando, FL
Nature inspired urbanism	14 December 2016	London, UK
Architecture and collective behavior	5-7 October 2016	Tempe, AZ
NASA Biomimicry and Education Forum	2-4 August 2016	Cleveland, OH

C. Further Education/Re-training Undertaken, Leaves, Workshops, etc.
Sabbatical leave. January-August 2017

D. Foreign Travel (Where, When, Purpose)

VII. ADMINISTRATIVE AND SERVICE RESPONSIBILITIES (include committee participation)

A. Department-level

B. College-level

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.

1 EFB 200 Physics of Life was offered for the eightth time. Its enrollment continues to be strong. Last July, I offered an online version of the course during Summer Session 2. This was the second time.

2 EFB 462 Animal Physiology continued to be offered as a fully online course, in Fall and in Summer Session 1. Enrollment continues to be strong. Production for Animal Physiology Online continues. I am also offering the course on udemy.com.

3 My research project funded by the Human Frontiers Science Program (HFSP) came to an end in December 2016. We continue to write up the work for publication.

4 I am a subcontracting scientist on a grant from the National Institutes of Health awarded to Drs Justin Werfel and Radhika Nagpal of Harvard University. The project explores the behavioral interactions between termites and soils, with the goal of being able to program semi-autonomous robot swarms to do construction. This project supports my post-doc, Paul Bardunias. He organized a symposium at last year' annual meeting of the Entomological Society of America, to which I contributed.

5 My term as a subcontracting scientist on a grant from the National Science Foundation awarded to Dr Andrea Surovek of the South Dakota School of Mines ended with the end of the funded term of the project. This project ws concerned with mechanical engineering of termite inspired structures. My role is to serve as a scientific advisor and to aid in the development of international research experiences for undergraduates.

6 My hybrid online/field course, *Biophysical Field Methods* (in collaboration with Prof Berry Pinshow [Ben-Gurion University of the Negev], Dr Eugene Marais [National Museum of Namibia] and Dr Gillian Maggs-Kölling [Gobabeb Desert Research and Training Centre, Namibia]) was offered for the second time in Spring 2017. One student from ESF has completed the online portion and will join ten other students from Israel, Namibia and South Africa this summer at Gobabeb for the field component of the course.

7 My term as Chair of the Academic Governance Standing Committee on Technology ended in August 2016. I served as a member until the end of December 2016. My term on the Executive Committee also ended.

8 I was heavily engaged in production of my third book, *Purpose and Desire*, scheduled to be released on 12 September 2017.

9 I was part of a working group on biomimicry, which began with a series of meetings at Huntington Wildlife Station, and continued with a workshop event that brought many of the world's leaders in biomimicry to ESF to discuss how to develop ESF as a center of biomimicry studies. I was appointed as chair of a Presidential Advisory Group charged with developing an undergraduate degree in biomimicry at the College.

10 From January 2017, I have been on sabbatical leave. Six weeks were spent at the Gobabeb Desert Research and Training Centre in Namibia, helping to develop their research theme, *Life in the Transients*, by carrying out experiments on a variety of species. I also shot footage for the short course on *Paleoclimates* with Dr Eugene Marais. From mid-March, I have been a resident fellow at the Stellenbosch Institute for Advanced Study (STIAS) in South Africa, where I have been working on production for *Purpose and Desire*, writing on the subject of evolution as cognition and developing the *Life in the Transients* theme with the Gobabeb Desert Research Centre. From mid-June to mid-July, I will return to Gobabeb to teach the field course in *Biophyical Field Methods,* and continue development of *Paleoclimates.* In mid-July, I will return to STIAS as a resident fellow until the end of August, when I return to ESF.

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)

1 My third book (full title: *Purpose and Desire. What Makes Something "Alive" and Why Modern Darwinism Has Failed to Explain It*) will be published in September 2017 by HarperOne, an imprint of HarperCollins. I expect to be spending considerable time promoting the book.

2 I will be developing my current course in *Physics of Life* into a fully online course. I also expect to continue production on *Paleoclimates*, which may involve travel to Namibia in Spring 2018.

3 I will likely offer my joint course with Margaret Bryant, *Design With/In Nature.*

4 I plan to continue work with the Presidential Advisory Group I chair on developing a biomimicry bachelor's degree at ESF.

B. PROJECTED ACTIVITIES FOR NEXT YEAR

1. Summer 2016

a. Course(s) to be offered
EFB 462 Animal Physiology Online
EFB 200 Physics of Life (online)

b. Proposed research activity
Continue work on NIH project

c. University, professional society, and public service
Continue work on the Biomimicry Bachelors degree

d. Other
See *Purpose and Desire* through to release.

2. Fall Semester 2016

a. Course(s) to be offered
EFB 462 Animal Physiology Online
EFB 200 Physics of Life

b. Proposed research activity
Continue work on NIH project

c. University, Professional society, and public service
Continue work on the Biomimicry Bachelors degree

d. Other
Promote *Purpose and Desire*

3. Spring Semester 2017

a. Course(s) to be offered
Design With/In Nature (with Margaret Bryant)

b. Proposed research activity
Continue work on NIH project

c. University, professional society, and public service
Continue work on the Biomimicry Bachelors degree

d. Other
Promote *Purpose and Desire*.