BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.
Follow this format for each person. DO NOT EXCEED FIVE PAGES.

NAME: Hamilton, Donna

eRA COMMONS USER NAME (credential, e.g., agency login):

POSITION TITLE: Associate/Assistant Professor of Biology

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE (if applicable)	END DATE MM/YYYY	FIELD OF STUDY
Midwestern State University, Wichita Fallas, Texas	BS	12/1992	Biology
Midwestern State University, Wichita Fallas, Texas	MS	12/2000	Biology
Texas Tech University, Lubbock, Texas	PHD	05/2008	Biology

A. Personal Statement

In this project proposed for the Academic Research Enhancement Award for Undergraduate-Focused Institution, Donna Hamilton is highly qualified to be responsible for recruiting and training the students to work safely in a laboratory setting and coordinating supportive programming for the student participants such as leadership training, campus resources available to them and on topics including graduate STEM school application, time management, navigating conflict and work/life balance. Dr. Hamilton is an Associate Professor of Biology with 11 years of mentoring undergraduate development and research projects. Her undergraduate researchers have presented at regional and national conferences; many winning awards. She also has two undergraduate first author publications. She, as Co-Principle Investigator, was awarded funding to help create a new Louis Stokes Alliance for Minority Participation in STEM that will allow for the creation of a campus STEM center with training and programming designed to recruit and retain a diverse STEM student population with funding through 2026.

B. Positions, Scientific Appointments and Honors

Positions and Scientific Appointments

2014 - Associate/Assistant Professor of Biology, University of North Texas Dallas, Dallas, TX
2009 - 2014 Director and Lecturer of Biology, Texas Tech University at Waco, Waco, TX

C. Contribution to Science

1. 1. Undergraduate research at a Primarily Undergraduate Institution (undergraduate students underlined). The focus of my undergraduate research lab is on field ecology and anthropogenic effects on the distribution and movement of macrofauna in North Texas. We use traditional observational techniques along with game cameras in both developed parks and undeveloped tracts of land. o Toney, K., Bentley, B. and D.E. Hamilton. Behavioral plasticity in urban and suburban large mammal populations in response to human activity patterns. In revision. o Kroll, M.L., B.A. Rodriguez, A.C. Edie, K.L. Phelps, D.E. Hamilton, S.M. Randell & S.A. Lockwood. 2018. Poriferan abundance is negatively associated with coral health in the Mesoamerican Reef. Texas J. Sci. 70: Article 7. https://doi.org/10.32011/txjsci_70_1_Article7.
2. 1. Context and Biological Implications of Biomimicry in Engineering. In collaboration with an engineering ethicist, another area of research is the application of biomimetic solutions to engineering problems without considering the evolutionary context of those solutions. Biomimicry is increasingly popular in all fields of engineering but applying solutions from a process with no value on an individual to a solution affecting human populations is problematic and almost entirely

unexamined. o Burgess, R.A., Hamilton, D.E. and M. Beruvides. 2018. Process Biomimicry: Understanding When to Imitate Nature. Proceedings of the 2018 Conference, Institute of Industrial and Systems Engineers.

3. 1. Landscape Ecology. In my doctoral and postdoctoral work, I examined the dispersion and movements of tarantula spiders in a fragmented landscape. We investigated movement between populations in varying temporal scales using radio telemetry, passive integrated transponders and genetic analysis. Later, I collaborated in an investigation of the movement of a pathogenic fungus along a contiguous watershed. o Ramesh, R., Lord, A. Griffis-Kyle, K. Perry, G. and D.E. Hamilton. 2013. Amphibian populations in Brazos River Basin, Texas, show no evidence of Bd infection yet. Herpetological Review, September 2013. o Hamilton, D.E., McIntyre, N.E. and L.D. Densmore. 2012. Using implanted passive integrated transponders to monitor long-term burrow fidelity in a theraphosid spider, Aphonopelma hollyi Smith 1995. The Southwestern Naturalist, 57: 144-147. o Hamilton, D.E. and C.N Craig. 2008. Incident of Temporary Burrow Appropriation by a Checkered Garter Snake, Thamnophis marcianus, from a North American Tarantula Aphonopelma hollyi, Southwestern Entomologist 33(4):319-320.