**Biographical Sketch   
*Instructions for proposals submitted or due on or after January 29, 2018 under NSF PAPPG 18-1***

A biographical sketch (***limited to two*** ***pages***) is required for each individual identified as Senior Project Personnel. Each Bio-sketch should be separately paginated. Specific NSF funding solicitations may require or permit Bio-sketches to be submitted for individuals other than Senior Personnel; please refer to the solicitation instructions for guidance.

Senior Person’s Bio-sketch must be uploaded to Fastlane as a single PDF file associated with that individual.

**Sample Format:**

\*Note: No personal information (e.g. home address, home phone, marital status) should be included\*

The following information must be provided in the order and format specified below:

**(a) Professional Preparation**

A list of the individual's undergraduate and graduate education and postdoctoral training as indicated below:

|  |  |  |  |
| --- | --- | --- | --- |
| Undergraduate Institution | Location | Major | Degree and Year |
| Graduate Institution | Location | Major | Degree and Year |
| Postdoctoral Institution | Location | Area | Degree and Year |

**(b) Appointments**

In reverse chronological order, list the individual’s academic/professional appointments.

**(c) Products** *[this section may be titled* ***Publications*** *if only publications are listed]*

(i) List up to five (5) products most closely related to the proposed project

(ii) List up to five (5) other significant products, whether or not related to the proposed project.

**Acceptable products must be citable and accessible including but not limited to publications, data sets, software, patents, and copyrights**. Unacceptable products are unpublished documents not yet submitted for publication, invited lectures, and additional lists of products. Only the list of 10 will be used in the review of the proposal. *[Unpublished documents submitted/accepted for publication are acceptable and should include likely date of publication*]

Citation format:

Each product must include full citation information including (where applicable and practicable) names of all authors, date of publication or release, title, title of enclosing work such as journal or book, volume, issue, pages, website and URL or other Persistent Identifier.

**(d) Synergistic Activities**

A list of up to **five examples** that demonstrate the broader impact of the individual’s professional and scholarly activities that focuses on the integration and transfer of knowledge as well as its creation. Examples: innovations in teaching and training (e.g., development of curricular materials and pedagogical methods); contributions to the science of learning; development and/or refinement of research tools; computation methodologies, and algorithms for problem-solving; development of databases to support research and education; broadening the participation of groups underrepresented in science, mathematics, engineering and technology; and service to the scientific and engineering community outside of the individual’s immediate organization.

Sample examples and format:

* Served as Co-Chair of Academic Conference (2016)
* Member of the National Academy of Sciences (2012-present)
* Served as NIH Peer Reviewer (2014-2015)
* Organized summer workshop to deliver training to undergraduates interested in research (2012)
* Served on editorial board of Academic Journal (2013-2015)

**<<<EXAMPLE>>>**

Name, Ph.D.

Department of Engineering Science

182 Stocker Center

Ohio University, Athens, OH 45701

**(a) Professional Preparation**

University of Townland Civil Engineering B.S. 1998

City University Chemical Engineering Ph.D. 2003

Acme Medical School Cybernetics Postdoc 2003-2009

**(b) Appointments**

Sept 2004 –present Assistant Professor of Engineering Science

Ohio University, Athens, OH

Dec 2001 – Aug 2004 Postdoctoral Research Fellow

Acme Medical School and Hospital, Boston, MA

Sept 1996 – Oct 2001 Graduate Research Assistant

City University, Baltimore, MD

**(c) Products**

**(i) Five most closely related to proposal project**

Shirure VS, Henson KA, Schnaar RL, Nimrichter L, and Burdick MM. Gangliosides Expressed on Breast Cancer Cells are E-selectin Ligands. Biochem Biophys Res Commun, 406(3):423-9, 2011.

Wang L, Shirure VS, Burdick MM, and Wu SJ. UVB-Irradiation Regulates VLA-4-Mediated Melanoma Cell Adhesion to Endothelial VCAM-1 under Flow Conditions. Mol Carcinog, 50(1):58-65, 2011.

Resto, VA, Burdick MM, Dagia ND, McCammon SD, Fennewald SM, Sackstein R. L-selectin-Mediated Lymphocyte-Cancer Cell Interactions under Low Fluid Shear Conditions. J Biol Chem; 283(23):15816-15824, 2008.

Alves CA, Burdick MM, Thomas SN, Pawar P, and Konstantopoulos K. The Dual Role of CD44 as a Functional P-selectin and Fibrin Ligand in Colon Carcinoma Cell Adhesion. Am J Phys-Cell Phys; 294(4):C907-916, 2008.

Patent: Intransigmoidentallic ensconced transmogrifier, US patent number 6,423,316, filed 2/2/2000.

**(ii) Other significant products**

Merzaban JS, Burdick MM, Gadhoum SZ, Dagia NM, Chu JT, Fuhlbrigge RC, and Sackstein R. Analysis of Glycoprotein E-selectin Ligands on Hhuman and Mouse Marrow Cells Enriched for Hematopoietic Stem/Progenitor Cells. Blood*,* 2011 Jun 9. Epub ahead of print, DOI: 10.1182/blood-2010-11-320705.

Nimrichter L, Burdick MM, Aoki K, Laroy W, Fierro MA, Hudson SA, Von Seggern CE, Cotter RJ, Bochner BS, Tiemeyer M, Konstantopoulos K, and Schnaar RL. E-selectin Receptors on Human Leukocytes. Blood;112(9):3744-3752, 2008.

Hanley WD, Napier SL, Burdick MM, Schnaar RL, Sackstein R, and Konstantopoulos K. Variant Isoforms of CD44 are P- and L-selectin Ligands on Colon Carcinoma Cells. FASEB J; 20:337-339, 2006.

Hanley WD\* Burdick MM, Konstantopoulos K, and Sackstein R. CD44 on LS174T Colon Carcinoma Cells Possesses E-selectin Ligand Activity. Cancer Res; 65(13):5812-5817, 2005.

Burdick MM and Konstantopoulos K. Platelet-Induced Enhancement of Colon Carcinoma Cell Adhesion to Vascular Endothelium under Flow. Am J Phys- Cell Phys. 287(2):C539-547, 2004.

**(d) Synergistic Activities**

**1) Interdisciplinary projects** currently in progress with collaborators outside my lab include development of the Intermechtal Phylocutorplasmitic Rheoxical Assay with Drs. DJ Metz (Ohio University (OU)), R Maytor (OU), and VA Restone (University of TX-Medical Branch (UTMB); analysis of cellular mechanical/rheological properties correlating with the CD57+/CD57- cancer stem cell phenotype with Drs. F Bene and D Theas (both, OU); identification of novel structures on cancer cells with Dr. L Nimroy (Universidade Federal do Rio de Janeiro); and characterization of parallax-mediated control of ligand function on cancer cells with Dr. SJ Wuchte (OU) and Dr. VA Restone (UTMB).

**2) Fostering of Undergraduate Research:** 11 students (2008-present, 3 women, 6 are from Appalachian Ohio); 3 students presented posters at the national 2009 AMEX conference plus the 2010 AARL conference, 1 student gave an oral presentation at the 2010 OLEG conference. 1 student has a manuscript in review, 4 students have 2 manuscripts in preparation. 2 students have received competitive University awards to support their research projects. 3 students continued research in the OU CES MS program under the PI’s mentorship.

**3) Service to the Scientific Community**: Manuscript reviewer for Cancer Res, Biotech and Bioeng, Glycobiology, Int J Cancer, Phys Biol, and Annals of Biomed Eng. Ohio University resource person for the NSF GRFP.

**4) Service to the Science Education Community:** Courses developed (2008-present): Applied Constology, a core engineering science class for OU Science Engineering undergraduate majors, cross-listed for graduate Science Engineering graduate students, taught annually, a redesign of the initial class offering in 2007 to incorporate current issues in science engineering; Topics in Science Engineering, new technical elective class, continuation of Applied Constology.