MSPE
Research Examples

Tips
1. Specify where you worked on your research and with whom you worked.
2. Always refer to mentors with proper titles (i.e. John Doe, MD, PhD, NOT Dr. John Doe).
3. Use proper formats and citations in referring to articles, journals, bacterial organisms, etc.
   o Name of journal in *italics*, title of article in “quotes”
4. Include any presentations, abstracts, manuscripts, etc. that resulted from your research.

Example 1
- Research Block: Worked in an applied physics laboratory at the University of Windsor under the mentorship of Charles Kent Smith, MD and Lynda Montgomery, MD, MEd
  o Designed and built a bench-top prototype of an ultrasound probe for rapid triage and diagnosis of pulmonary trauma in a non-hospital setting; An artificial human thorax was constructed with matching acoustic properties of normal parenchyma, pulmonary edema, and pneumothorax; A percussion hammer and ultrasound sensor were interfaced with a computer in order to analyze the signals
  o Initial spectral analysis of signals suggests a computer algorithm can distinguish between healthy lung parenchyma and pneumothorax based on reproducible frequency peaks and bandwidth of signal
  o Mr. A has submitted a first-author abstract for publication on this research
- Summer Research: Worked Stanford University School of Medicine, Departments of Allergy and Immunology and of Gastroenterology
  o Investigated the immunological aspects of eosinophilic esophagitis, pediatric inflammatory bowel disease, and primary sclerosing cholangitis
  o Contributed to two peer reviewed papers that were published in the *Journal of Immunology*

Example 2
- Research Block: Worked with Robert Haynie, MD, PhD, and Steven Ricanati, MD, at MetroHealth Medical Center on the epidemiological factors of obesity and hypertension among adolescents
  o Explored the association of continuity of care and the diagnosis of hypertension among pediatric patients; Investigated temporal trends in the diagnosis of pediatric obesity over the last seven years; Examined when within the course of chronic disease that family history is assessed
  o Presented research at Irwin H. Lepow Medical Student Research Day at Case Western Reserve University and gave a poster presentation at the Annual Childhood Obesity Conference in April 2016; Produced three papers from this work, one as first-author; One paper, “Diagnosis of obesity in children and adolescents: 1999-2015,” was published in *Pediatrics*, and two papers have been submitted for publication

Example 3
- Research Block: Worked in the lab of Marjorie Greenfield, MD, and Margaret Larkins-Pettigrew, MD, MEd, MPPM, at University Hospitals Case Medical Center
  o Used *Caenorhabditis elegans* to study the relationship between anesthetic sensitivity and specific protein subunits in Complex I of the mitochondrial electron transport chain
  o Performed RNA interference experiments in *C. elegans* targeting the gene gas-1 and the gene sequence W10D5.2; Following RNAi, mitochondria from nematodes was isolated and oxidative phosphorylation assays were performed; RNAi knockdown was assessed by RT-qPCR and anesthetic sensitivity assays were performed using the general anesthetic halothane; Results showed that gas-1 RNAi decreased Complex I-dependant respiration rates and increased sensitivity to anesthetic
  o Resulted in one abstract and one manuscript; One first-author abstract has been submitted for publication