OSAC RESEARCH NEEDS ASSESSMENT FORM

Title of research need: Assessment of Level of Personal Protective Equipment (PPE) Required at Crime Scenes

Keyword(s): PPE, DNA, Biohazards, Trace evidence, Contaminants, Blood, Touch DNA

Submitting subcommittee(s): Crime Scene Investigation **Date Approved:** Sept. 30, 2016

(If SAC review identifies additional subcommittees, add them to the box above.)

Background Information:

1. Description of research need:

Crime Scene Investigators don personal protective equipment at crime scenes to prevent the contamination of evidence at the crime scene. Safety precaution to prevent the transfer of biohazardous materials that may be present to the individual is available through OSHA guidelines. Locard's Exchange Principle or the theory of transfer provides that "two objects which come into contact with one another exchange material" is the underlying reasoning for the PPE requirement. The level of PPE required may be dictated by scene conditions and tasks to be performed there.

Specific areas of research include:

1. Measurable impact (threat of contamination) from the presence of crime scene personnel on the scene and physical evidence contained within.
2. Measurable impact (threat of contamination) of crime scene personnel during the collection of various items of evidence using increasing levels of PPE.

2. Key bibliographic references relating to this research need:

Back, Carly (2015) "Reducing Contamination in Forensic Science", Thesis: Research Journal of Justice Studies. Vol. 3: Iss. 1, Article 12

Finnebraaten, M. Graner, T. & Hoff-Olsen, P. (2008) May a Speaking Individual Contaminate The Routine DNA Laboratory? Forensic Science International: Genetics Supplement Series 1

3a. In what ways would the research results improve current laboratory capabilities?

Crime scene personnel must use collection, packaging, transportation and storage methodologies that preclude alteration, addition, and deleterious change to evidence. The use of all levels of PPE at every crime scene may not be feasible or necessary. Decisions regarding the level of PPE necessary are currently somewhat anecdotal in nature and would be better supported by underlying research.

3b. In what ways would the research results improve understanding of the scientific basis for the

subcommittee(s)?

There is currently (little or no) data to support the actual impact of crime scene personnel as contaminants to the crime scene and evidence that would provide guidance in making informed decisions regarding the level of PPE that is required.

3c. In what ways would the research results improve services to the criminal justice system?

The results of this research would assist in the management of specific contamination risks associated with crime scene investigation and the collection of all types of evidence that could potentially be available at a scene.

4. Status assessment (I, II, III, or IV): II

	Major gap in current knowledge	Minor gap in current knowledge
No or limited current research is being conducted	I	III
Existing current research is being conducted	II	IV

This research need has been identified by one or more subcommittees of OSAC and is being provided as an informational resource to the community.

Approvals:

Subcommittee Approval date: 9/30/2016

(Approval is by majority vote of subcommittee. Once approved, forward to SAC.)

SAC

1. Does the SAC agree with the research need? Yes [X] No [ ]
2. Does the SAC agree with the status assessment? Yes [X] No [ ]

If no, what is the status assessment of the SAC: [ ]

Approval date: Feb. 9, 2017

(Approval is by majority vote of SAC. Once approved, forward to NIST for posting.)