Advanced Headform Total Inward Leakage Test System – FY13 (927ZJRV)

Objective

Develop and validate a total inward leakage (TIL) test system using headforms that have human-like characteristics and movements.

Applicable Standards related activities

- 42 CFR 84
- ISO TC94 SC 15

Key Partners

- AFRL (funding)
- BARDA (funding)
- Hanson Robotics, Inc.

Stakeholders

- ISO
- Respirator manufacturers
- Respirator users

Project Scope

- Define objectives and optimal characteristics for a novel headform TIL test system
- Design and construct the test system
- Compare fit factors between headforms and human test subjects

Outputs

- Manuscript published or submitted to peer-reviewed journals **(2)**
- Presentations to stakeholders or conferences **(2)**
- Standards committee meetings & public meetings **(0)**

Milestones FY13

- Q1 Obtained articulated headform
- Q2 Completed comparison of static headform and humans
- Q3 Submitted paper on benchmark testing of static headform to JOEH
- Q4 Complete comparison of articulated headform and humans

Outcomes

- Project outputs will be used by ISO, ANSI, FDA, and NIOSH in the development of new standards
- Manufacturers will use the advanced headforms
- Other researchers utilize the project outputs to initiate new research related to TIL testing