## Independent Validation and Verification (IV&V) testing infrastructure

### Defence Science and Technology Laboratory (DSTL)

#### Capabilities
- **Porton Man**, the life-size robot that can carry out real-time breakthrough testing of active chemical agents, capable of mimicking the movement of a serviceman in combat
- Preclinical large models for chemical and biological agent testing

#### Point(s) of Contact
- Adam Smith (AJSMITH@mail.dstl.gov.uk, Telecom)

### National Biodefense Analysis and Countermeasures Center (NBACC)

#### Capabilities
- *In vitro* and *in vivo* models for **biological** agent testing (BSL3/BSL4)
- Aerobiology, Bacteriology, Virology, Toxicology, Comparative Medicine

#### Point(s) of Contact
- Shanna Ratnesar-Shumate (Shanna.Ratnesar-Shumate@NBACC.DHS.GOV, panel & sidebar)

### U.S. Army Combat Capabilities Development Command Chemical Biological Center (CCDC CBC)

#### Capabilities
- *In silico*, *in vitro*, *in vivo* models for **toxins** and **chemical** agent testing
- **Chemical agent** and **toxic industrial chemical** breakthrough and permeation testing
- *In vitro* and *in vivo* models for biological agent testing (BSL3)

#### Point(s) of Contact
- Daniel Barker (daniel.j.barker.civ@mail.mil)
- Gregory Peterson (gregory.w.peterson.civ@mail.mil, panel & sidebar)
- Kyle Glover (kyle.p.glover.civ@mail.mil, panel & sidebar)
- Nicole Rosenzweig (carolyn.n.rosenzweig.civ@mail.mil, sidebar)

### U.S. Army Combat Capabilities Development Command Soldier Center (CCDC SC)

### U.S. Army Research Institute of Environmental Medicine (USARIEM)

#### Capabilities
- Swatch-level **physical property** and **simulant (chemical)** testing
- Modeling and simulation of human thermal response
- Full garment and human testing of **thermal burden**

#### Point(s) of Contact
- Kristine Isherwood (CCDC SC kristine.d.isherwood.civ@mail.mil, sidebar)
- Natalie Pomerantz (CCDC SC natalie.l.pomerantz.civ@mail.mil, panel & sidebar)
- Bruce Cadarette (USARIEM bruce.s.cadarette.civ@mail.mil, panel & sidebar)
- Laurie Blanchard (USARIEM laurie.a.blanchard4.civ@mail.mil, sidebar)