From the Desk of the Science Director

As you may have heard, TATRC is well underway in re-focusing its efforts on the Automating Casualty Care (AC2) portfolio. Its first project known as 'AutoDoc,' focuses around establishing a viable set of sensors, algorithms and infrastructure needed to collect data passively and reliably in casualty care environments and to use that data to document care.

The AC2 portfolio and AutoDoc project, which we have described in more detail in previous editions of the TATRC Times, represent a foundational capability for automating casualty care. They provide the "sensing" base of the "Artificial Intelligence (AI) Stack" (Sense, Understand, Decide, Act). Having the ability to passively source data about casualty care – actions of the medic, state of the patient and resources used – in real time has the promise of enabling AI solutions that assist caregivers and leaders at the point of care and across the continuum to understand, decide and act better and more rapidly to increase the capability and capacity of the entire military medical system.

On 8 February, TATRC's leadership team briefed MRDC's senior leaders and key staff from the Principal Assistant for Research and Technology (PART) and Combat Casualty Care Research Portfolio (CCCRP) on the progress on the AC2 portfolio and AutoDoc project. This was the first quarterly In-Progress Review (IPR) since the project received official approval from MRDC's Commanding General to move forward in November 2023. TATRC briefed a long list of accomplishments reflecting the strong work of each of TATRC's functional teams and staff.

Here is a sample of some of the highlights from the first half of the first "sprint" of the AutoDoc project:

More important than the actions of the teams across TATRC working together to accomplish these activities, was the progress of the team in delivering value for our sponsors and, ultimately, our customers – the combat medics and others in the military health system: 25 Tactical Combat Casualty Care (TCCC) simulations were conducted, 120 TCCC procedures were recorded, 25GB of scenario data was recorded, representing 20% of the DD1380 covered in recorded scenarios.

Mr. Matt Quinn, Science Director, TATRC

Also important in the advancement of TATRC's work in automating casualty care is awareness, engagement and input from those who could incorporate these technologies into their plans. A key partner for TATRC in this portfolio of work is Joint Operational Medicine Information Systems (JOMIS). TATRC hosted Ms. Sandy McIntyre, Program Manager, JOMIS Program Executive Office, and other key leaders from JOMIS' Future Requirements and Emerging Technology (FRET) group at Fort Detrick in early February to share TATRC's work, JOMIS' needs, and opportunities for collaboration.

The rest of the first sprint of the AutoDoc project will prepare TATRC for scaled data collection in the subsequent sprints. Data is our currency, and this project will build the data set that TATRC and others will use to model and automate casualty care.

We look forward to continuing to share progress on this important work!

Programmatic & Organizational	• Project and Staff Realignment Complete • Project approval to start/ funded (9 Nov 23) • Prioritized partnerships identified & agreements initiated
Infrastructure	• Course of analysis conducted and selected • Contract with MIT Lincoln Lab (RAPIDS) • RAPIDS accounts established • Tested RAPIDS infrastructure + data curation & annotation
Sensor Suite	• Intramural Sensor Suite Identification & Acquisition • Extramural Sensor Suite Prize Competition • Extramural Sensor Suite OTA announced
Data Collection	• Non-Determination Letters established with HRPO • Protocol for data collection approved by HRPO • Data collection events for intramural sensor suite & sensor suite prize competition
Algorithms	• Intramural algorithm Identification & Acquisition