Site Information at a Glance

MITRE and the University of Virginia (UVA) are working in partnership to improve medical outcomes. We apply innovative electronic systems engineering, decision support data analytics, mobile cyber security, acquisition operations, and clinical expertise to inform smart and connected healthcare. This collaborative work is pursued under the auspices of a joint inter-disciplinary Learning Lab that benefits from co-location with UVA clinical systems engineers.

The MITRE@UVA Health systems site is located at One Hospital Drive in Charlottesville, VA, on the UVA university grounds within the health system, enabling us to leverage a diverse and inclusive academic community:

- **Mobile Digital Health.** The mobile health lab devises and tests mobile sensors and remote health technology, including telehealth systems, to measure and improve patient outcomes and clinician experience.

- **Shared Analytics.** The shared analytics lab develops and applies advanced analytic models to address the challenges of health information. We explore unique techniques for learning and sharing analytic insights across boundaries without compromising privacy or security. We do this by promoting standards of metadata needed for analytic exchange networks to share data models and medical analytics without moving sensitive data to ensure interoperability between health information systems.

- **Clinical Collaboration.** The clinical collaboration lab brings together clinicians from UVA, MITRE sponsors, and other organizations with MITRE engineers and scientists to identify and solve complex, critical problems.

These labs comprise a capability pipeline that merges and connects data streams with analytic information and clinical knowledge, leading to greater insight into care delivery, as well as improved quality and safety for patients and providers.

Our shared commitment to public service enables us to overcome the barriers that inhibit the technology and data management innovation we need to improve medical care operations.

For More Information:
https://sites.mitre.org/uvahealth
uvahealth@mitre.org

Partners and Sponsors
University of Virginia
IEEE NIST DoD VA
NSF FDA NIH
Others
Management and Administrative Team

**Cj Rieser, PhD**
UVA Health Site Leader & Principal Medical S&T Engineer
Emerging Technologies Division Staff

**Degrees:**
BS–Electrical Engineering
MS–Electrical Engineering
PhD–Electrical Engineering
Pronouns: she/her/hers

**Kimberly Albero, DNP, RN, FNP-BC**
Deputy Site Lead and Clinical Liaison
Health Systems and Strategy Department

**Degrees:**
BS–Nursing
MS–Family Nurse Practitioner
DNP–Nursing Practice
Pronouns: she/her/hers

**John Griffith**
Principal AI Engineer
AI-Enhanced Discovery and Decisions Department

**Degrees:**
BA–Computer Science
MA–Linguistics
Pronouns: he/him/his

Mission Focus and Impact
The MITRE@UVA partnership continues to garner sponsor support and have impact across both the national security and public service sectors. In collaboration with UVA and other academic and industry participants, MITRE engages military, veteran, civilian health, and other sponsors to leverage engineering approaches for learning metrics and measures, telehealth and remote monitoring, medical cyber, and shared analytics. This activity focuses on reference platforms for both sensitive and non-sensitive experimentation, as well as standards studies spanning regulatory registries, clinical trials, wearables, garrison and expeditionary spaces, and clinical hospital and telehealth care needs.

Notable collaboration between MITRE and UVA includes:

- Partnering to scale, document, measure, and share telehealth services to vulnerable populations in response to the COVID-19 pandemic as well as provide joint affirming privacy preserving mobile wearable wisdom and wellbeing platform (WWP) resiliency tools to address occupational and patient stress injury awareness and mitigation using digital health emerging medical technologies.
- Transitioning novel dual use solutions for remote sensing, distributed surveillance, early detection, resource allocation, and resiliency planning to help address the multidimensional challenges that the COVID-19 pandemic poses.
- Pivoting high assurance artificial intelligence approaches used to solve data and analytic challenges for national security to tackle the pandemic while focusing on meeting essential digital health equity needs especially for underrepresented & vulnerable populations.
- Leading standards development with the IEEE Engineering in Medicine and Biology Society, resulting in the IEEE P2795 standard for sharing analytics.
- Improving expeditionary health technology readiness through field exercises and mobile medical experimentation, that enables emergency and disaster response by autonomous digital health connectivity innovations.
- Hosting a joint medical scholars intern program, joint research professor appointments, and engineering in medicine faculty fellow rotation between UVA Health and MITRE Labs supporting federally funded research and development center (FFRDC) sponsor missions and grant programs.

MITRE’s sponsors bring challenges to the partnership and encourage MITRE engineers and UVA clinicians to explore ground-breaking approaches for care delivery via learning metrics and measures, telehealth and remote monitoring, medical cyber security, and shared analytics.