FOR IMMEDIATE RELEASE:

BIOGEARS® OPEN SOURCE HUMAN PHYSIOLOGY ENGINE AVALAIBLE FOR DOWNLOAD

RALEIGH, Oct. 2 2014– Applied Research Associates (ARA, www.ara.com) - announced today that the open source BioGears® Physiology Engine (www.biogearsengine.com) Mini Build is now available for download.

BioGears® is a $7M, multi-year program funded by the Defense Medical Research Development Program (DMRDP) and administered by the U.S. Army's Telemedicine & Advanced Technology Research Center (TATRC), Armed Forces Simulation Institute for Medicine (AFSIM), under USAMRMC award number W81XWH1320068. BioGears® will deliver an open source, comprehensive, extensible human physiology engine that will serve as a platform for biomedical modeling research and also facilitate the creation of immersive medical education and training technologies.

The BioGears® Mini Build is available for download via an Apache 2.0 license and includes cardiovascular and respiratory models and examples of multiple engine interfaces. BioGears® can be used as a stand-alone application or integrated into your training and immersive learning technologies to simulate human physiological response to trauma and treatment. At maturity, BioGears® will be a whole body simulation comprised of accurate system-level models.

Over the next year, our team will continue to develop BioGears®, adding four new systems, additional substances, e.g., drugs, external interfaces, and software features. The Mini Build is meant to elicit feedback from the community that will enhance the Beta Build, planned for release in the Fall of 2015.

Our Mini Build delivers detailed documentation, a Software Development Kit (SDK), and a website that promotes community interaction. The Mini Build also includes a showcase scenario that demonstrates the degrees of patient customization, the numerous insults and injuries, and the assessments available in the engine. For instance, our Respiratory system includes 'insults' such as pneumothorax, bronchoconstriction, and airway obstruction and 'interventions' such as intubation, and needle decompression.

Our SDK was developed with our end user groups in mind: simulation content developers, biomedical modelers, MedSim technology integrators, and researchers/educators. Our PI, Mr. Jerry Heneghan, stated that "a main goal of BioGears® is to lower the barrier to create medical training content. Our team is doing just that by providing an open source, accurate physiology engine and source code for all types of users to benefit from this project."

ARA's biomedical modeling and simulation research group has a proven track record of creating innovative, physiologically accurate mathematical models that drive immersive, game-based medical training technologies.

To learn more about using BioGears® or partnering with ARA's BioGears® research team on upcoming projects, please contact us!

About Applied Research Associates, Inc. (ARA):

Applied Research Associates, Inc. (ARA) is an international research and engineering company recognized for providing technically excellent solutions to complex and challenging problems in the physical sciences. Our mission is to provide in-depth and diversified research, engineering, and technical support services. We have a broad range of technical expertise in biomedical engineering, defense technologies, civil engineering, computer software and simulation, systems analysis and environmental technologies. For additional information, please visit: www.ara.com.

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