Dr. Christopher L. Barrett

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Christopher L. Barrett is the inaugural Distinguished Professor in Biocomplexity, Executive Director of the Biocomplexity Institute, and Professor in the Department of Computer Science at the University of Virginia. He is an interdisciplinary computational scientist who has published more than 100 research articles exploring all aspects of large multi-scale interaction systems. During the past 35 years, Barrett has conceived, founded, and led large interdisciplinary complex systems research projects and organizations, established national and international technology programs, and cofounded organizations for federal agencies such as the Department of Defense, the Department of Energy, and the Department of Homeland Security.

Barrett is the recipient of the 2012–2013 Jubilee Professorship in Computer Science and Engineering at Chalmers University in Göteborg, Sweden and is a member of the 2010 Royal Colloquium for the King of Sweden. He was a Distinguished International Professor at the Royal Institute of Technology in Stockholm, Sweden (1997–1998). He has received distinguished research, service, advisory, and security awards from the U.S. Navy, Los Alamos National Laboratory, and the Alliance for Transportation Research. He has served as advisor to many organizations, including U.S. government agencies, the Commonwealth of Virginia, and the European Commission. Barrett developed some of the earliest detailed, largescale, high-performance simulation systems for biological, social, and decision sciences. In particular, development of distributed computing approaches for detailed agent-based simulation study of human mobility and transportation systems, interdependent infrastructure analysis, population-scale demand side micromodels, intelligent data fusion and control systems, and social epidemiology. His early work in engineered intelligence applied to U.S. Naval aircraft led to innovations in human-machine cognitive integration and simulation. He holds seven patents and has nine pending.

Prior to joining UVA, Barrett was Executive Director and Institute Research Professor of the Biocomplexity Institute (BI) of Virginia Tech (2015-2018) and its predecessor the Virginia Bioinformatics Institute (VBI) at Virginia Tech (2004-2015). In late 2004, he joined Virginia Tech to establish the Network Dynamics and Simulation Science Laboratory (NDSSL) at VBI and directed NDSSL from 2004 to 2014. In 2014, Barrett successfully led an extensive transformation of VBI into BI. He was the Scientific Director of VBI from 2012-2015, and was VBI Director for Research in the National Capital Region (NCR) from 2008-2015. Early in his career, Barrett served in the U.S. Navy Submarine Force and later as a research scientist in Naval Air Systems. As a U.S. Navy officer, he founded and led the Decision Analysis Research Team at the Naval Air Development Center. Subsequently, he was a member of the Scientific Staff and a Technical Group Leader at Los Alamos National Laboratory where he founded the Basic and Applied Simulation Science Group in the Computing and Computational Science Division. His career has focused on intelligent system integration, networks of distributed systems, scalable HPC simulation of cognitive, biological and social systems, and complexity.

Throughout his career, Barrett has been committed to creating transdisciplinary research organizations grounded in computational and information services spanning mathematical, biological, psychological, and social sciences; his efforts have led to successes in a range of military R & D laboratories, national laboratories, and university environments.

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