

Walter Rance Cleaveland II, Ph.D.

Professor of Computer Science

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Profile	Internationally renowned researcher in formal methods, theory and practice of software development, system verification and validation (V&V), and cyber-physical systems. Experienced and effective organizational leader.	
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Education	Ph.D. in Computer Science <i>Cornell University</i>	<i>May 1987</i>
	M.S. in Computer Science <i>Cornell University</i>	<i>May 1985</i>
	B.S. in Mathematics, Computer Science <i>Duke University</i>	<i>May 1982</i>

Academic Appointments and Achievements	University of Maryland College Park MD	
	<i>Associate Dean for Research, College of Computer, Mathematical and Natural Sciences</i>	<i>Nov. 2022-present</i>
	<i>Professor of Computer Science</i>	<i>Jun. 2005-present</i>
	Stony Brook University Stony Brook NY	
	<i>Professor of Computer Science</i>	<i>Aug. 1998-May 2005</i>
	North Carolina State University Raleigh NC	
	<i>Associate Professor of Computer Science</i>	<i>Aug. 1994-Aug. 1998</i>
	<i>Assistant Professor of Computer Science</i>	<i>Aug. 1989-Aug. 1994</i>
	Sussex University Brighton UK	
	<i>Postdoctoral Research Associate</i>	<i>Jul. 1987-Jun. 1989</i>

- Fellow of IEEE
- Author of 150+ peer-reviewed scientific publications in areas of formal methods, automated verification and validation theory and tools, cyber-physical systems
- Holder of two US patents on software modeling, automated test generation
- \$20m+ of competitive research funding throughout career from NSF, Army Research Office, Office of Naval Research, Air Force Office of Scientific Research, DARPA
- Winner of NSF National Young Investigator Award, ONR Young Investigator Award, Alcoa Foundation Engineering Research Achievement Award
- Served on over 100 program committees for scientific research conferences
- Co-founder of International Conference on Tools and Algorithms for the Construction and Analysis of Systems, a premier conference in formal methods
- Co-founder of Springer journal *Software Tools for Technology Transfer*
- Past / current member of editorial boards of multiple research journals
- Led / served on numerous departmental, college-level, university and external committees
- Winner of two teaching awards

Full *curriculum vitae* available on request

**Non-Academic
Appointments
and
Achievements**

National Science Foundation

Division Director

Jul. 2018-Jul. 2022

- Led Division of Computing and Communication Foundations, a \$200m division in the Computing and Information Science and Engineering directorate within NSF
- Launched new programs in machine learning, quantum computing, formal methods, scalable systems, biocomputing, semiconductor design, system design
- Developed cross-agency research programs and partnerships within NSF with directorates of Biology; Mathematical and Physical Sciences; Engineering; and Social, Behavioral and Economic Sciences
- Developed external partnerships with Intel, Amazon, DARPA, NIH, Simons Foundation
- Chaired NITRD Interagency Working Group on big data
- Led first-ever strategic-planning effort for division
- Served on agency-wide steering committees for Understanding the Rules of Life, Quantum Information Science and Engineering, Navigating the New Arctic, and Biotechnology / Bioeconomy

Fraunhofer Center for Experimental Software Engineering

Executive and Scientific Director

Jun. 2005-Dec. 2014

- Led 30-employee, \$4.7m applied-research center affiliated with UMD
- Implemented re-organization, strategic refocusing on cybersecurity and embedded systems, leading to 120% growth in revenues, 100% increase in retained earnings, 60% growth in headcount
- Initiated new business areas in automotive, medical-device software; refocused business efforts in aerospace, software-process training
- Initiated partnerships with numerous private-sector / governmental organizations, including Agilent, Bosch, FDA, Johnson & Johnson, NASA, United Technologies

Reactive Systems Inc. Cary NC

Chairman of the Board

Feb. 1999-present

- Oversee strategic and financial performance of \$3m software-testing company
- Assist CEO with strategic planning
- Lead board meetings

Chief Executive Officer

Feb. 1999-Sep. 2008

- Led launch, boost phase of company
 - Wrote business plan, raised seed capital and authored federal grant proposals providing funding to develop initial products
 - Helped develop Reactis[®], company's lead product line of software-testing tools
 - Oversaw strategic planning, marketing, sales and partnerships, including international distribution network
 - Made presentations to over 100 prospective customers in areas of automotive, aerospace, heavy equipment in US, China, Taiwan, Japan, Western Europe, India
 - Authored successful patent applications, directed intellectual-property strategy
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