INDUSTRY KEYNOTE

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DOUG A. BOWMAN, PH.D., is the Frank J. Maher Professor of Computer Science and Director of the Center for Human-Computer Interaction at Virginia Tech, where he has served as a faculty member since 1999. He is the principal investigator of the 3D Interaction Group, which performs fundamental research on the topics of three-dimensional user interfaces, user experience in virtual reality (VR) and augmented reality (AR), and the benefits of immersion in virtual environments, in addition to projects applying VR/AR to domains as diverse as construction, history, education, and military training/operations. His work has been supported by grants from the Office of Naval Research, National Science Foundation, National Endowment for the Humanities, Defense Advanced Research Projects Agency, and companies including Microsoft, Adobe, Google, and Facebook. He and his students (including 22 Ph.D. graduates) have contributed over 200 peer-reviewed papers to the scholarly literature, and these papers have been cited nearly 20,000 times.

Doug's most widely-cited work is the book 3D User Interfaces: Theory and Practice, which grew out of a series of tutorials and short courses on 3D UIs organized by Doug and his co-authors. The book is in its second edition (2017) , and is still considered one of the go-to reference books in the field. Other notable contributions include the HOMER interaction technique, the fidelity framework for describing the realism of VR systems, the progressive refinement approach to 3D selection, the AR simulation methodology for studying future augmented reality systems, and the Glanceable AR concept. He is the recipient of numerous research awards, including membership in the inaugural class of the Virtual Reality Academy, the ISMAR Career Impact Award, the IEEE VGTC Technical Achievement Award in VR, ACM Distinguished Scientist recognition, and an NSF CAREER Award.

Service to his professional and university community is also an important part of Doug's career. He has been deeply involved with the IEEE Conference on Virtual Reality and 3D User Interfaces (IEEE VR) for his entire career, serving as program chair, general chair, steering committee member and chair, and co-founder of the 3D UI Symposium. He has also served as Associate Editor and Associate Editor-in-Chief of IEEE Transactions on Visualization and Computer Graphics, one of the top journals in the field, and chair of the IEEE VGTC Virtual Reality Best Dissertation Committee. At Virginia Tech, his primary service role since 2011 has been as Director of the Center for Human-Computer Interaction, a research center facilitating interdisciplinary research on the human aspects of technology design and use. CHCI serves faculty members and students from computing, human factors engineering, art, and design disciplines, as well as a wide variety of application domains.

Doug's undergraduate degree in mathematics and computer science is from Emory University, and his master's and Ph.D. are from Georgia Tech. In addition to his work at Virginia Tech, Doug completed sabbatical years at UC Santa Barbara and at Apple, and has consulted for Walt Disney Imagineering R&D. He and his wife Dawn have five children, who are rapidly starting to leave the nest. They are looking forward to future opportunities for service at their church, travel, and competitive pickleball.