Career Achievement Award

Jonathon Phillips
National Institute of Standards and Technology

Called “the most influential scientist in facial recognition,” in 2015 by *Discover* magazine, Dr. P. Jonathon Phillips is a world-renowned expert in computer vision, face recognition, biometrics, forensics, and develops evaluation competitions for these technologies.

Jonathon began working in face recognition and biometrics in 1993. He has spearheaded research advancing face recognition improvements, addressed congressional inquiries into the technology's capabilities and shortcomings (bias), and evaluated human examiner capabilities. In 1997, Jonathon Phillips the National Institute of Standards and Technology's Information Technology Laboratory, where he is currently a senior scientist.

While at the Night Vision and Electronic Sensors Directorate and the Army Research Laboratory, Jonathon introduced evidence-based decision-making to face recognition and biometrics with the Face Recognition Technology (FERET) program (1993-1997). The FERET program's goal was to develop the technology and measure its progress. Jonathon organized the three FERET competitions that included independent evaluation of systems. The FERET program's success established competitions and independent evaluations as the gold standard for assessing face recognition and biometrics capabilities.

As a DARPA program manager (2000-2004), Jonathon organized the systematic assessments of novel biometrics that included infrared and hyperspectral images of the face, iris recognition at a distance, gait recognition, and 3D face scans. These assessments provided the biometrics community with the ability to make informed decisions on investing in these novel technologies.

Jonathon organized and managed the highly successful Facial Recognition Vendor Test (FRVT) 2002. The FRVT 2002 report provided Congress with a comprehensive assessment of the state of face recognition. For his work on FRVT 2002, Jonathon received the Department of Commerce Gold Medal in 2003. Building on these accomplishments, Jonathon organized and managed the Face Recognition Grand Challenge, FRVT 2006, and the Iris Challenge Evaluations (ICE) (2005-2006)—the first large-scale, open, and independent evaluation of iris recognition.

Jonathon's work helped establish the effectiveness of competitions and evaluations in face recognition and biometrics. For this contribution, he won the IEEE Biometrics Council Leadership Award. The face recognition competitions' success led to the computer vision community adopting their use. For this contribution to the broader computer vision community, Jonathon won the inaugural IEEE Mark Everingham Prize.

In 2004, Jonathon formed an interdisciplinary team to expand face recognition evaluations to include human performance. This team's effort allowed for the direct comparison of humans and algorithms. This effort measured the accuracy of forensic examiners and conducted the first black-box test of facial examiners. The paper on the project appeared in the *Proceedings of the National Academy of Sciences* in 2018. For this work, he received the Department of Commerce Gold Medal in 2020.

Jonathon's work in biometrics is not limited to evaluation. He was an associate editor for *IEEE Transactions on Pattern Analysis and Machine Intelligence*; *IEEE Transactions on Biometrics, Behavior, and Identity Science*; and guest editor of an issue of the *Proceedings of the IEEE* on biometrics. He has published more than 100 peer-reviewed papers in face recognition, computer vision, biometrics, psychology, forensics, statistics, and neuroscience. A Fellow of the IEEE and the IAPR, Jonathon also served on the Executive Office of the President (White House) National Science and Technology Council Subcommittees on Biometrics from 2002 to 2012.