Thomas Höft* (hoft@stthomas.edu), University of St. Thomas, 2115 Summit Ave., Mail OSS 201, Saint Paul, MN 55105. *A 3-D face imaging method with applications to biometric identification.*

We review a three-dimensional imaging method, Fourier transform profilometry (FTP), and present an example of its use in industry for biometric identification of humans. In FTP one projects single-frequency sinusoidal fringes of laser light onto an object and records a digital image; the depth profile of the object distorts the fringes, encoding 3-D information as a modulation of the fringe frequency. The Fourier transform allows for computationally efficient recovery of a depth image. Data is acquired from the face of a minimally co-operative human subject and processed to produce a 3-D surface of the face. Paired with a co-registered photograph, the surface may be rotated to a standard mug-shot pose for biometric identification. We illustrate the method with data from real live humans. (Received September 17, 2013)