

# Biometric Consortium 2005 Conference

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**Topic:** Interoperability and Conformance Testing

**Abstract:** Standards are important in the world of biometrics, as they are in many other areas of life. Ideally, any 1/4 inch nut should work with any 1/4 inch bolt. Similarly any fingerprint enrollment should be verifiable with any fingerprint verification system and any face enrollment should be verifiable with any face verification system. This is the essence of interoperability. Unfortunately, although interoperability between nuts and bolts is a fact of life, interoperability among biometric systems has traditionally been very limited. This is due to the fact that the biometrics industry is still in its infancy, and standards (other than in a few niche areas such as fingerprint submissions for criminal AFIS) have only recently been developed. Even now that biometric standards are becoming available, it is difficult to determine if a given biometric product properly adheres to the standard. Conformance testing is a rigorous method of making that determination. If two products both conform to a standard, and if the standard is well written, then the chances of achieving interoperability between them are significantly enhanced. They are not guaranteed, however, and independent interoperability testing is still recommended before deploying any real world system that requires interoperability.

The concepts of base standards, conformance testing to those base standards, and interoperability testing among products using those base standards are discussed in this presentation with reference to two real world examples, one using ISO 19794-2 and the other, currently being demonstrated by four vendors at the exhibition associated with this show, using INCITS 378-2004.

**Biography:** Dr. Campbell has over ten years experience in image processing and pattern recognition with a specific focus on biometric sensors and algorithms. This, combined with his Ph.D. in experimental solid state physics, gives him a unique combination of expertise in algorithms, sensors and test protocol design. He has been involved in standards development and in providing advice on biometrics to governments, as well as in developing biometric algorithms and designing integrated biometric systems.

Dr. Campbell was the senior biometrics scientist at 3M-AiT, Ltd from 2001 to 2004 and this gave him experience in designing biometrics systems specifically for traveler processing, border management, and identity document issuance. Since 2004, Dr. Campbell has been President of Bion Biometrics and has been involved in biometrics standards and testing. Dr. Campbell is an active participant in both national and international groups relating to biometrics standards and the use of biometrics for border management and traveler processing. These include the ANSI INCITS M1 Committee, the ISO/IEC JTC1 SC37 Committee, and the International Labour Organization, where Dr. Campbell has completed two phases of conformance, performance and interoperability tests to ensure the worldwide interoperability of the fingerprints used in the ILO Seafarers' Identity Document.