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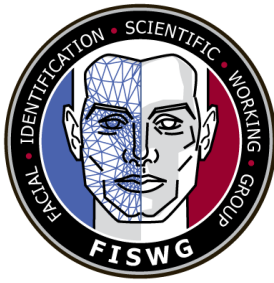
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# Facial Identification Scientific Working Group (FISWG)

## Overview

### 1. Introduction

Although facial identification (FI) has been used in government and law enforcement applications for decades, the widespread use of facial images for scientific analysis and automated facial recognition (FR) systems is more recent. Consequently, there is a need to gather and disseminate accurate information regarding the proper application of FI and FR methodologies and technologies.

#### 1.1 Mission Statement

The mission of FISWG is to develop consensus standards, guidelines and best practices for the discipline of image-based comparisons of human features, primarily face, as well as to provide recommendations for research and development activities necessary to advance the state of the science in this field.

#### 1.2 FISWG Membership

FISWG delegates include scientists, practitioners, and managers from federal, state, local, and international agencies with criminal justice, intelligence, or homeland security responsibilities. Representatives from the academic and research communities are also included. All FISWG documents are intended to represent the consensus opinion of this discipline and should not be construed as the official policy of any of the represented agencies. Membership details are in the FISWG Bylaws at [www.fiswg.org](http://www.fiswg.org).

#### 1.3 Purpose of this Document

This document will introduce the reader to basic concepts involving facial identification and facial recognition as well as the goals and activities of FISWG.

#### 1.4 Explanation of FI and FR

##### *Basic Concepts*

There are numerous and varied definitions for the terms FI and FR. FISWG considers FI primarily to be manual examination of the differences and similarities between two facial images for the purpose of determining if they represent different persons or the same person. FR involves the automated searching of a facial image in a computer database, typically resulting in a group of facial images ranked by computer-evaluated similarity. The resulting FR candidate list may or may not contain the person depicted in the original image and does not inherently imply that person is in the group. FR utilizes biometric technology.

#### 1.5 Explanation of Biometrics and Forensic Science

Biometrics is a general term used alternatively to describe a characteristic or a process. As a characteristic, biometrics means a measurable biological (*anatomical and physiological*) or behavioral characteristic that can be used for automated recognition. As a process, biometrics means automated methods of recognizing an individual based on measurable biological or behavioral characteristics.

Worldwide, biometrics are primarily used as a substitute for passwords and personal identification numbers (PINs) enabling persons to access systems, locations, or privileges. The use of biometrics has expanded within criminal justice, intelligence, and homeland security applications over the past decade.

While both biometrics and forensic science involve human identification, biometrics is typically applied using automated techniques to the pre-event situation application, such as gaining access to sensitive information or to a secured facility. Forensic applications typically occur after a crime has occurred, and

may not use fully automated methods. Forensic methods are often used to assist in the adjudication (legal) process and usually require days of processing (versus seconds for biometrics) and are held to a much higher standard for legal purposes.

FI examinations occur in a variety of environments ranging from forensic to biometric screening, depending on the purpose and accuracy required. FR operations occur primarily in the biometric screening environment.

For more information about biometrics, refer to [www.Biometrics.gov](http://www.Biometrics.gov).

### **1.6 Value of FI and FR to Society**

Leveraging modern technologies, FI/FR helps apprehend criminals and terrorists, locate missing persons, expose identity theft, and increases the ability to protect society. Government agencies are sensitive to privacy and civil liberty concerns; however, decisions about what images are captured, stored, and/or searched are outside the purview of FISWG.

### **1.7 FISWG Goals and Activities**

The goals of FISWG include developing resources to educate and inform the relevant communities. These activities will be accomplished through active participation and involvement in workshops and conferences, and by collaborating with other Scientific Working Groups (SWGs) and bodies, as well as the research and academic communities.

FISWG seeks to leverage constituency group and stakeholder knowledge to produce guidelines, position statements, and address other issues to include:

- Prioritized R&D needs, especially population studies/statistical validation
- Exchange of information and ideas
- Best practices
- Cognitive and system bias mitigation
- Ensuring conformance with regulatory reports
- Training to competency standards for experts and technicians
- Quality Control/Quality Assurance Standards
- Certification recommendations
- Proficiency testing recommendations
- Ethical issues
- Legal issues
- Source book creation
- Defining FI/FR use cases
- Establishing the value and limitations through FI/FR success stories and review of failures
- Identifying appropriate participants (experts, vendors, etc.) for future meetings
- Tracking cases of spoofing - both successful and not