



# Priority Action Report

## Anthropology

Crime Scene/Death Investigation

Thomas D. Holland, Ph.D.

January 27, 2016





# Subcommittee Leadership

Position	Name	Organization	Term	Email
Chair	Tom Holland, Ph.D.	Defense POW/MIA Accounting Agency	3 years	Thomas.d.holland.civ@mail.mil
Vice Chair	Diane France, Ph.D.	Human Identification Lab of Colorado	4 years	dlf@humanidlab.com
Executive Secretary	Todd Fenton, Ph.D.	Michigan State University	4 years	fentont@msu.edu



# Subcommittee Members



#	Name	Organization	Term	Email
1	Eric Bartelink	California State University Chico	2	ebartelink@csuchico.edu
2	William R. Belcher	Joint POW/MIA Central Identification Lab	2	william.r.belcher.civ@mail.mil
3	Hugh E. Berryman	Middle Tennessee State University	2	hugh.berryan@mtsu.edu
4	Angi M. Christensen	FBI Laboratory	3	angi.christensen@ic.fbi.gov
5	Gretchen R. Dabbs	Southern Illinois University	4	gdabbs@siu.edu
6	Todd W. Fenton	Michigan State University	4	fentont@msu.edu
7	Diane L. France	Human Identification Lab of Colorado	4	dlf@humanidlab.com
8	Kristen Hartnett	CT Office of the Chief Medical Examiner	4	dr.khartnett@gmail.com
9	Joseph T. Hefner	Michigan State University	4	hefnerj1@msu.edu
10	Thomas D. Holland	Defense POW/MIA Accounting Agency	3	thomas.d.holland.civ@mail.mil
11	Jennifer Love	Washington, DC OCME	3	jennifer.love@dc.gov
12	Owen Middleton	Hennepin Co. Medical Examiner's Office	2	owen.middleton@hennepin.us
13	Stephen Ousley	Mercyhurst University	3	sousley@mercyhurst.edu
14	Nicholas V. Passalacqua	Joint POW/MIA Central Identification Lab	3	nicholas.v.passalacqua.civ@mail.mil
15	Vincent J. Sava	Joint POW/MIA Central Identification Lab	4	vincent.j.sava.civ@mail.mil
16	Douglas D. Scott	Colorado Mesa University	2	ddscott@coloradomesa.edu
17	Richard M. Thomas	FBI Laboratory	3	richard.m.thomas@ic.fbi.gov
18	Michael W. Warren	University of Florida	2	mwarren@ufl.edu

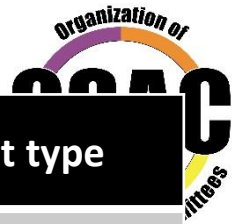


# Discipline Description



The Subcommittee on Anthropology will focus on standards and guidelines related to application of anthropological methods and theory – particularly those relating to the recovery and analysis of human remains – to resolve legal matters.

# OSAC Task Groups



Title	Assignees	Document type
Age Estimation	Hartnett & Passalacqua	Technical
Ancestry Assessment	Hefner & Hartnett	Technical
Code of Ethics and Conduct	Passalacqua	N/A
Determination of Medicolegal Significance	France & Love	Technical
Documentation, Reporting and Testimony	Sava & Warren	Lab management
Facial Approximation	Thomas	Technical
Identifying and Describing Pathological Conditions, Lesions, and Anomalies	Sava & Middleton	Technical
Personal Identification	Fenton & Christensen	Technical
Proficiency Testing	Sava & Love	Lab management
Resolving Commingled Human Remains	Bartelink & Belcher	Technical
Scene Detection and Processing	Scott & Berryman	Technical
Sex Assessment	Hartnett & France	Technical
Skeletal Sampling and Preparation	Thomas & Dabbs	Technical
Statistical Methods	Ousley & Hefner	Technical
Stature Estimation	Christensen & Love	Technical
Taphonomic Observations in the Postmortem Interval	Dabbs & France	Technical
Trauma Analysis	Fenton & Berryman	Technical





## Priority Action Items

Title	Assignees	Document type
Stature Estimation from Human Remains	Love and Christensen	Standards/Guidelines
Glossary	Hartnett and Bartelink	Standards/Guidelines
Training and Competency	Christensen and France	Standards/Guidelines
Facial Approximation	Thomas and Sava	Standards/Guidelines
Sex Assessment	Hartnett and France	Standards/Guidelines





# Summary of Standards/Guidelines Priority Actions

Priority	Working Title of Document
1	Standard Guide for Stature Estimation from Human Remains
2	Glossary for Forensic Anthropology
3	Standard Guide for Training and Competency in Forensic Anthropology
4	Facial Approximation in Forensic Anthropology
5	Sex Assessment in Forensic Anthropology



# Standards/Guidelines Development Priority 1 Document

**Document Title:** Standard Guide for Stature Estimation from Human Remains

**Scope:** Stature estimation is based on a mathematical relationship between skeletal dimensions and stature (or height).

**Objective/rationale:** Skeletal remains shall be analyzed in a reliable and systematic manner for estimating stature using appropriate techniques.

**Issues/Concerns:** Inappropriate methods lead to inaccurate stature estimation.

**Task Group Name:** Standard Guide for Stature Estimation from Human Remains

**Task Group Chair Name:** Jennifer Love

**Task Group Chair Contact Information:**

[jennifer.love@dc.gov](mailto:jennifer.love@dc.gov)

**Date of Last Task Group Meeting:** January 28, 2016





# Standards/Guidelines Development Priority 1 Document

Key Components of Standard: Stature estimation shall follow methods published in peer reviewed sources and shall be reported as a prediction interval. If one or more of the bones needed to apply a specific method are absent or in poor condition, the method shall not be utilized.



# Priority 1: Stature Estimation from Human Remains

## Task Group/Subcommittee Action Plan



Planned Actions	OSAC Process Stage (e.g., SDO 100)	Assignee	Estimated Completion Date
Reformat to ASB style guide	SDO 0	Love, Christensen	March 30, 2016
Update to SDO Project	SDO 100	Love, Christensen	March 30, 2016
Anthropology SC Comment	SDO 200	Love, Christensen	April 30, 2016
Ballot to Anthropology SC	SDO 200	Love, Christensen	May 30, 2016
Submit to Resources Comm.	SDO 200	Love, Christensen	June 30, 2016





# Standards/Guidelines Development Priority 2 Document

Document Title: Glossary for Forensic Anthropology

Scope: Defining terminology used in forensic anthropology standards and guidelines.

Objective/rationale: Ensure consistent use of terminology within forensic anthropology and identify discipline-specific usage.

Issues/Concerns: Inconsistent and incorrect use in terminology will result in misunderstanding within and across disciplines.

**Task Group Name:** Glossary for Forensic Anthropology

**Task Group Chair Name:** Eric Bartelink

**Task Group Chair Contact Information:**

ebartelink@csuchico.edu

**Date of Last Task Group Meeting:** January 28, 2016





# Standards/Guidelines Development Priority 2 Document

Key Components of Standard: Forensic anthropology terminology.





# Priority 2: Glossary for Forensic Anthropology Task Group/Subcommittee Action Plan

Planned Actions	OSAC Process Stage (e.g., SDO 100)	Assignee	Estimated Completion Date
Reformat to ASB style guide	SDO 0	Bartelink, Hartnett	March 30, 2016
Update to SDO Project	SDO 100	Bartelink, Hartnett	March 30, 2016
Anthropology SC Comment	SDO 200	Bartelink, Hartnett	April 30, 2016
Ballot to Anthropology SC	SDO 200	Bartelink, Hartnett	May 30, 2016
Submit to Resources Comm.	SDO 200	Bartelink, Hartnett	June 30, 2016





# Standards/Guidelines Development Priority 3 Document

**Document Title:** Standard Guide for Training and Competency in Forensic Anthropology

**Scope:** Describes levels of education, training, experience, and professional activities required to practice forensic anthropology at various qualification levels.

**Objective/rationale:** Practitioners shall possess the appropriate qualifications relevant to the forensic anthropology-related duties they are expected to perform.

**Issues/Concerns:** Unqualified individuals may produce inaccurate results.

**Task Group Name:** Standard Guide for Training and Competency in Forensic Anthropology

**Task Group Chair Name:** Angi Christensen

**Task Group Chair Contact Information:**

angi.christensen@ic.fbi.gov

**Date of Last Task Group Meeting:** January 28, 2016



# Standards/Guidelines Development Priority 3 Document

Key Components of Standard: Prescribes minimum qualifications to practice forensic anthropology.





# *Priority 3: Standard Guide for Training and Competency in Forensic Anthropology*

## **Task Group/Subcommittee Action Plan**

<b>Planned Actions</b>	<b>OSAC Process Stage (e.g., SDO 100)</b>	<b>Assignee</b>	<b>Estimated Completion Date</b>
Reformat to ASB style guide	SDO 0	Christensen, France	March 30, 2016
Update to SDO Project	SDO 100	Christensen, France	March 30, 2016
Anthropology SC Comment	SDO 200	Christensen, France	April 30, 2016
Ballot to Anthropology SC	SDO 200	Christensen, France	May 30, 2016
Submit to Resources Comm.	SDO 200	Christensen, France	June 30, 2016







# Standards/Guidelines Development Priority 4 Document

Document Title: Facial Approximation in Forensic Anthropology

Scope: Recommendation for the production and assessment of facial approximations.

Objective/rationale: Methods should be employed with a spirit of scientific integrity: subjective interpretation should be limited, scientifically tested methods should be used, and method weaknesses and limitations should be communicated.

Issues/Concerns: Facial approximation images are for investigative use only, and should not be used for personal identification.

**Task Group Name:** Facial Approximation in Forensic Anthropology

**Task Group Chair Name:** Richard Thomas

**Task Group Chair Contact Information:**

richard.m.thomas@ic.fbi.gov

**Date of Last Task Group Meeting:** January 28, 2016



# Standards/Guidelines Development Priority 4 Document

Key Components of Standard: The production of facial approximations should include expert knowledge from the field of anatomy and forensic anthropology.





# *Priority 4: Facial Approximation in Forensic Anthropology*

## **Task Group/Subcommittee Action Plan**

<b>Planned Actions</b>	<b>OSAC Process Stage (e.g., SDO 100)</b>	<b>Assignee</b>	<b>Estimated Completion Date</b>
Reformat to ASB style guide	SDO 0	Thomas, Sava	March 30, 2016
Update to SDO Project	SDO 100	Thomas, Sava	March 30, 2016
Anthropology SC Comment	SDO 200	Thomas, Sava	April 30, 2016
Ballot to Anthropology SC	SDO 200	Thomas, Sava	May 30, 2016
Submit to Resources Comm.	SDO 200	Thomas, Sava	June 30, 2016





# Standards/Guidelines Development Priority 5 Document

**Document Title:** Sex Assessment in Forensic Anthropology

**Scope:** To outline practices for assessing sex from skeletal remains using morphological traits and metric analysis.

**Objective/rationale:** To establish guidelines for the valid assessment of sex from the skeleton.

**Issues/Concerns:** To avoid practices with little or no scientific basis in human osteology, including sub-adult sex assessment and assessment of gender.

**Task Group Name:** Sex Assessment

**Task Group Chair Name:** Kristen Hartnett

**Task Group Chair Contact Information:**

dr.khartnett@gmail.com

**Date of Last Task Group Meeting:** January 28, 2016



# Standards/Guidelines Development Priority 5 Document

## Key Components of Standard:

While almost every adult skeleton exhibits male or female characteristics reflecting sexual dimorphism, the validity of sex assessment is affected by several factors: inter- and intra-population differences, age, and pathological and taphonomic changes.



# *Priority 5: Sex Assessment in Forensic Anthropology*

## **Task Group/Subcommittee Action Plan**

<b>Planned Actions</b>	<b>OSAC Process Stage (e.g., SDO 100)</b>	<b>Assignee</b>	<b>Estimated Completion Date</b>
Reformat to ASB style guide	SDO 0	Hartnett, France	March 30, 2016
Update to SDO Project	SDO 100	Hartnett, France	March 30, 2016
Anthropology SC Comment	SDO 200	Hartnett, France	April 30, 2016
Ballot to Anthropology SC	SDO 200	Hartnett, France	May 30, 2016
Submit to Resources Comm.	SDO 200	Hartnett, France	June 30, 2016





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4	Facial Approximation in Forensic Anthropology
5	Sex Assessment in Forensic Anthropology





# Standards/Guidelines Reviewed For Technical Merit

Title	Developing Organization	Status*	OSAC Process Stage (e.g., RA 100)
N/A at this time			





# Research Gaps Identified (First Priority)



- Controlled experimental bone trauma studies in collaboration with biomechanical engineers to further the understanding of fracture patterns in bone.
- Determination of healing rates of fractures, especially to estimate time since injury in children and the elderly.
- Development of time since death methods that rely more upon the skeletal material itself, such as isotope signatures in various tissues, and therefore less on the taphonomic environment.
- Validation of stable isotope estimates of geographic origin using current and new isotopes.
- Collect additional population sample data (nonmetric, metric, skeletal, dental) for diverse areas of the world, particularly under-studied immigrant groups.

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# Research Gaps Identified (Additional Considerations)



- Validation studies of technologies (e.g. ground penetrating radar, remote sensing), and recovery techniques from various contexts in forensic anthropology.
- Determination of the frequency of skeletal and dental anomalies in different populations, and development of methods to combine information from various sources (i.e. anthropological, dental, DNA) to provide a robust statistical basis for identification.
- Development of better statistical methods for combining age estimations from multiple indicators, particularly those that produce explicit confidence intervals, representing uncertainty in estimates due to sample size and to different relationships between indicators and age.





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