

3D Digitization of Bronze and Gold artefacts from Romanian National History Museum's Collections

Corina Nicolae, Mihai Bozgan, Marius Amarie
Romanian National History Museum, Bucharest, Ro

Who are we?



Romanian National History Museum

Lapidarium and the Collections of the Romanian National History Museum



Data acquisition

- **Method used: Structure from Motion**
- **Canon EOS 5D Mk II ISO 100,**
t=1/60/ zoom lens EF 24-105 AF IS @ 35 mm
f: 22
- **Fuji XS-1 f=6.1 - 158.6 mm, equivalent to 24 - 624 mm on a 35 mm camera, full-aperture F2.8 (Wide) - F5.6 (Telephoto)**
- 2 Studioflash 1000w
- 2 Studioflash 300w



Processing and post processing

a. APPLE MAC 2.3GHz quad-core Intel Core i7 (Turbo Boost up to 3.3GHz) cu 6MB L3 cache, Intel HD Graphics 4000, 32GB 1600MHz DDR3

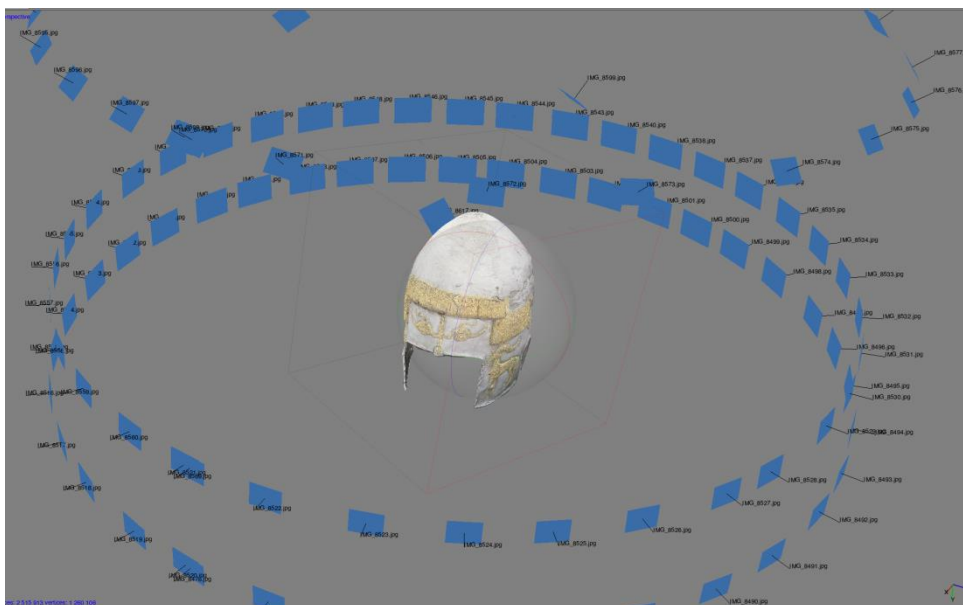
b. Desktop: Motherboard Gigabyte G1.Sniper3
Processor Intel Core i7 3770, 3400 MHz overclocked at 4000 MHz
RAM memory Dual DDR3 1333MHz Corsair 32GB
Video Nvidia GTX 660 Ti 1GB

Helmet made of silver, with gold impressions
second half of the 4th. c. BC

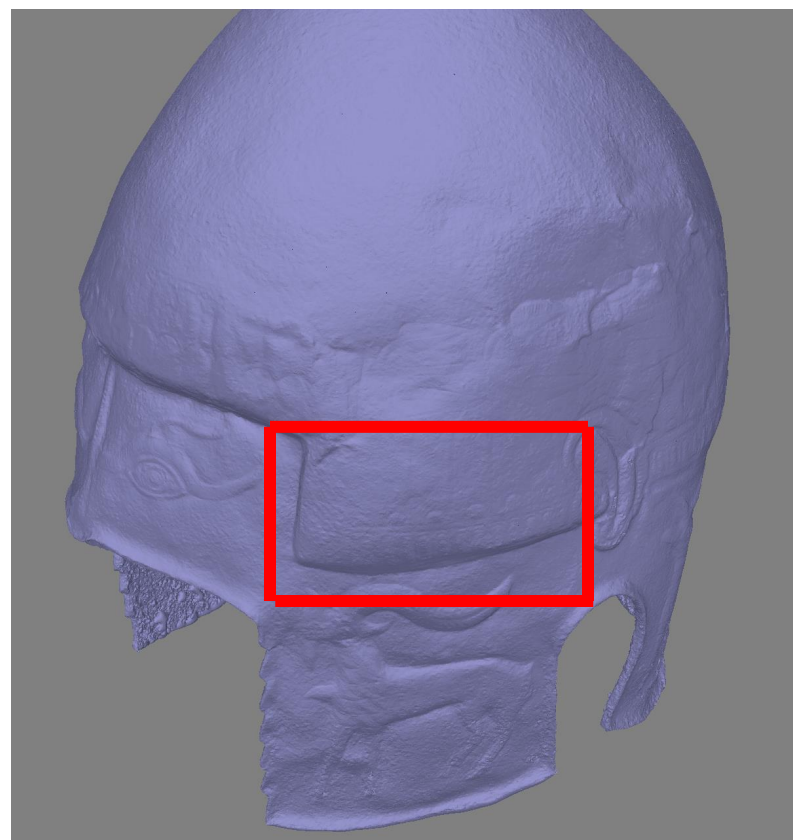
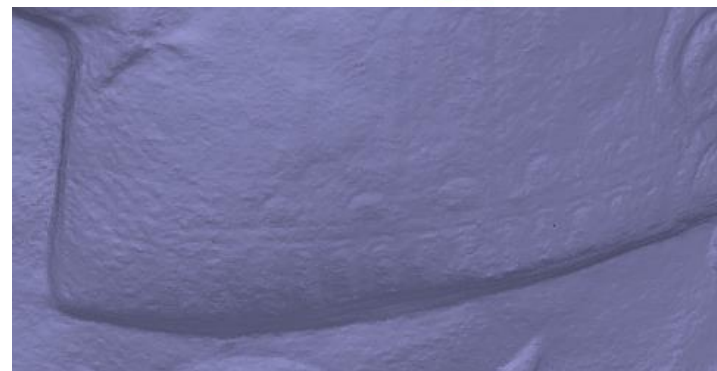


- 125 photos
- Distance from the object of app. 55 cm
- GSD of app. 0.08 mm
- In order to avoid reflections, the object was placed in a soft box, and we used 2 photographic lamps
- Height of the object 27 cm

Helmet made of silver, with gold impressions
second half of the 4th. C. BC



Cameras orientation



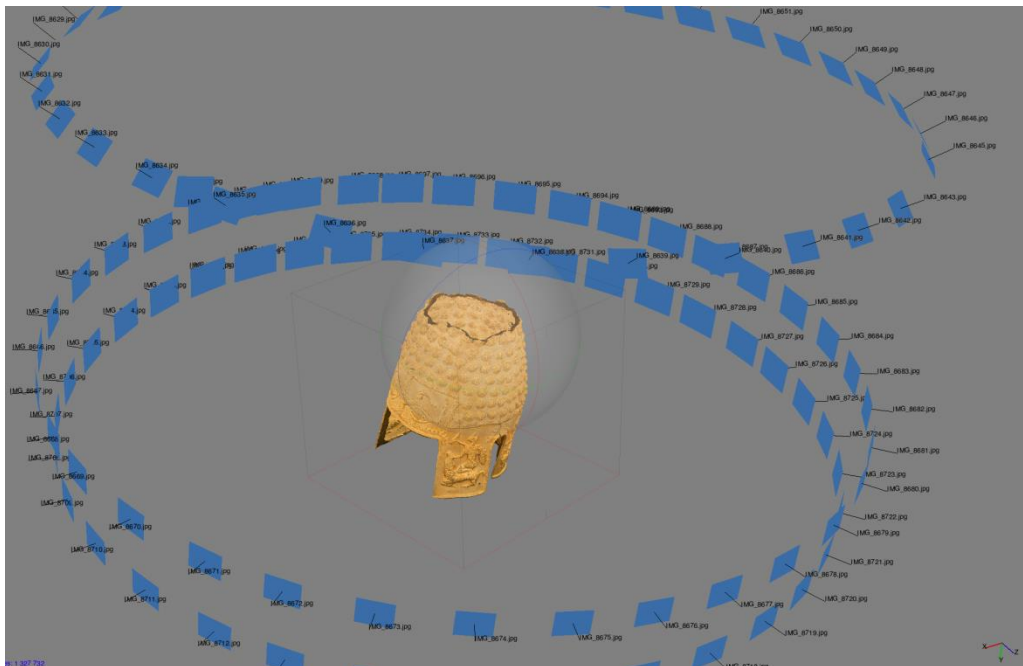
Mesh of the helmet, with a detail

Helmet made of gold second half of the 4th. c. BC

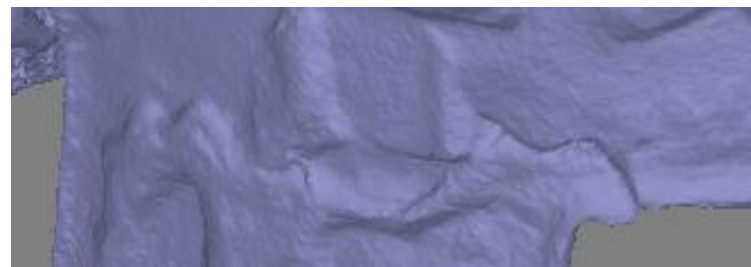
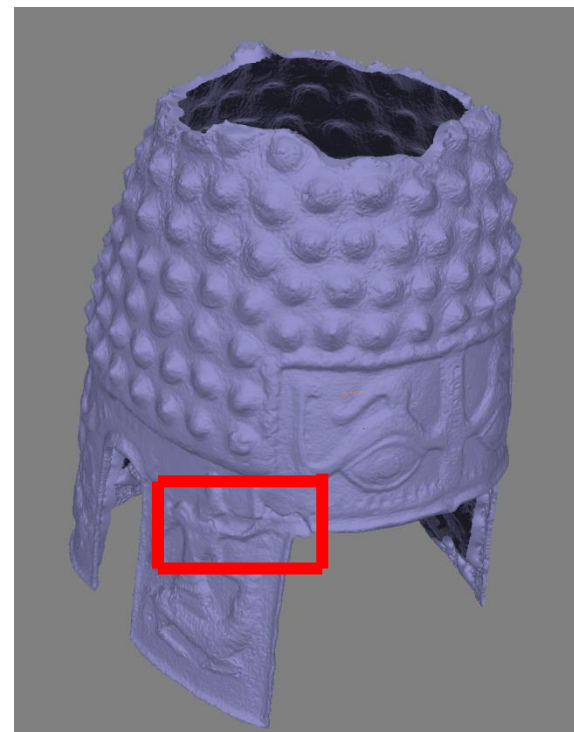
- 152 photos
- Distance from the object of app. 55 cm
- GSD of app. 0.06 mm
- In order to avoid reflections, the object was placed in a soft box, and we used 2 photographic lamps
- Height of the object 25 cm



Helmet made gold second half of the 4th. C. BC



Cameras orientation



Mesh of the helmet, with a detail

Bronze statuette of Jupiter Dolichenus second half of the 2nd. c. AD

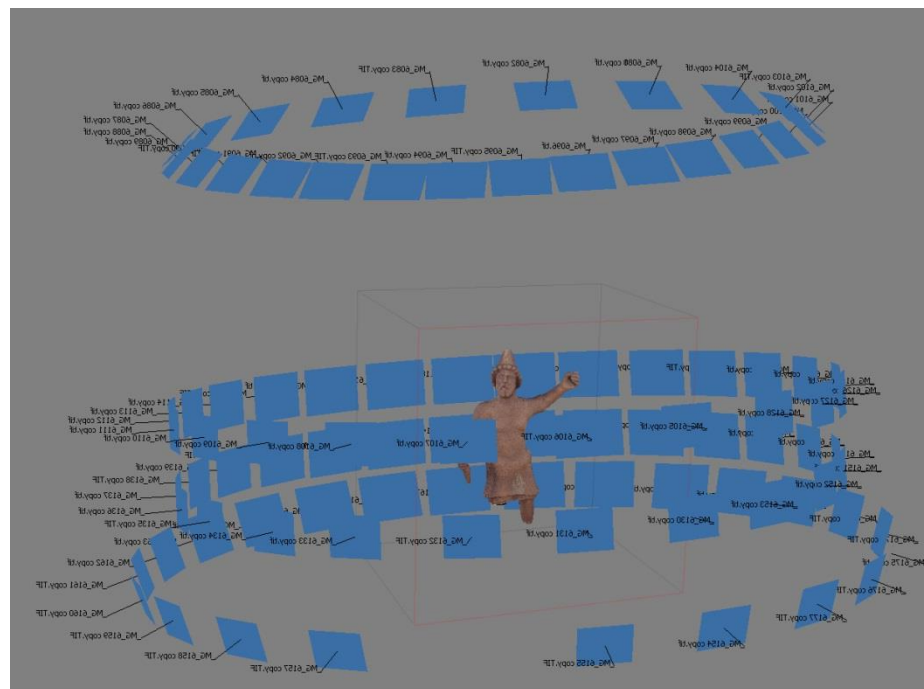
- 96 photos were acquired
- Distance from the object of app. 50 cm
- GSD of app. 0.06 mm
- Height of the object 16,5 cm



Bronze statuette of Jupiter Dolichenus second half of the 2d. c. AD



Mesh of the statuette, with a detail



Cameras orientation



ISPRS Technical Commission V Symposium
"Close-range imaging, ranging and applications"