1. Substance and context

This project aims to increase scholarly and public understanding of one of the most important works of Roman art in an American public collection: the over life-size statue of the Emperor Caligula in the Virginia Museum of Fine Arts in Richmond, Virginia (figure 1). The goals of the project are to: (1) undertake new interdisciplinary and technical studies of the Richmond Caligula; (2) present our preliminary findings at a public conference; and (3) make the final results available at no cost over the Internet.

E. Varner (2004:35), a member of our team, described the statue as follows: “[an] over life-sized [80” high] togate statue, a replica of Caligula’s main type from Rome…[It] is carved from a single block of Luna marble and is reported to have been discovered in the vicinity of the Theater of Marcellus at Rome…[T]here is a break
in the neck; technical analysis has confirmed that the head does in fact belong to the body. The head exhibits very little damage: the rims of both ears chipped, the tip of the nose has broken off, and there are additional chips on the chin. Both forearms are missing, as is the front of the left foot.” Ternbach (1974) posited that the head originally belonged to the torso. In 1988 Jerry Podany, head of Antiquities Conservation at the J. Paul Getty Museum, examined the statue and on the basis of his visual observations agreed that the head and body are from a single block of marble. At this time marble samples were taken from the join near the back of the head and sent to Dr. Stanley Margolis of carbon and oxygen stable isotope analysis, who confirmed that the head and body are from the same statue. As early as 1973, the distinguished German art historian Hans Jucker called for a study of the traces of paint that might still be found on the surface of the statue. This has not yet been done and so is a high priority of our project. Jucker speculated that the sandals were painted black or red; the tunic visible under the toga had the broad purple stripes indicative of senatorial rank; and the white linen toga ought to have had painted borders (Jucker 1973: 24). We note that project participants Abbe and Liverani are experts on the polychromy of ancient sculpture; and that project consultant Østergaard has recently studied how color should be restored on the head of Caligula in the collection he curates (see Østergaard 2004 and our figures 2, 10 and 11 below). As for artistic quality, Jucker finds the Richmond Caligula to be superior to the two other surviving full-length portraits of Caligula, both of which come from the provinces: one from Velleia in northern Italy (re-cut after Caligula’s death with the features of his successor, Claudius); and one from Gortyn on Crete (Jucker 1973: 22).

According to Jucker (1973: 24), the statue depicts the young emperor as a member of the patrician class (as is indicated by the special sandals—the calcei patricii—which he wears; cf. fig. 9 [Appendix IV]). The box (scrinium) for holding book rolls behind his left foot “leads one to assume that the left hand held such a roll, whereas the right hand undoubtedly pointed sharply to the front in a rhetorical gesture….The young emperor thus presents himself…with an accentuated modesty as the first citizen, as princeps in the ancient sense of that honorary title….With its expansive pose and sense of forward motion, the statue seems to demand an encounter. From the standpoint of form and content it
becomes complete only when confronted by a living person. A total environment with the work of art will induce a feeling of awe in the truly perceptive museum visitor.”

The goal of our project is to help contemporary students, scholars, and members of the public (whether they see the statue in the museum or on the Internet) to have the kind of emotional and intellectual encounter with the Richmond Caligula that Jucker rightly sensed could be possible if the statue were presented in its total cultural context and environment. This recovery requires two essential steps. First, the statue must be reconstructed to restore its lost parts (especially the communicative gestures of the missing hands) and its faded colors: we cannot react to what we cannot see. Second, the statue must be set into the rich and frequently contradictory cultural context that produced it: until we can imagine ourselves in the position of ancient viewers—whether they were from the capital at Rome or from provinces such as Egypt and Judaea—we can have no hope of understanding their reactions to the image of Caligula.

In taking these two steps, we have several advantages that were not available to Jucker when he was writing: the development of new techniques for detecting polychromy on works of marble sculpture; new 3D digital technologies that allow us to capture the details of a statue with sub-millimeter precision and to restore its missing parts; and new humanistic methods based on interdisciplinary approaches that have developed since Jucker’s day. Our project exploits these advantages to recreate Jucker’s missing “total environment” in order that today’s students, scholars, and the general public may better understand the Richmond Caligula’s original significance and powerful impact.

Caligula (“Little Boots,” the nickname of Gaius Julius Caesar Augustus Germanicus, who lived from 12 to 41 A.D.) has gone down in history as one of Rome’s “bad” emperors. The son of the popular Germanicus, he began his reign at the age of 25 with a burst of public support upon the death of his aged uncle Tiberius in 37 A.D. But within two years he alienated the mainstays of the imperial order—the Senate, wealthy businessmen and the army and in A.D. 41 a successful plot was organized to assassinate him (on Caligula, see below, Appendix I, Bibliography A).
As happened after Nero’s suicide and the murder of other unpopular rulers, monuments honoring Caligula were destroyed throughout the Empire. Often this destruction—called *damnatio memoriae* (“condemnation of the memory”)—was officially sanctioned. In Caligula’s case it was not (Varner 2004: 21-45), but the anger felt toward Caligula was so great that few portraits of him have survived (Kreikenbom 1992: 81), and almost all of those that do are busts. Of the few known colossal, full-length statues, the copy in Richmond is by far the best-preserved. The “Richmond Caligula” gives us an idea of what the hundreds of destroyed colossal statues of the emperor must have looked like. As such, it offers us precious evidence for understanding the rapid rise and fall of an emperor of whom the Jewish historian Josephus stated, “it was not only the Jews in Jerusalem and Judaea who were exposed to [his] outrageous madness. He projected it through every land and sea, and filled Rome’s dominions with more evil than history had ever known. But Rome above all felt the horror of his actions” (Josephus, *Jewish Antiquities* 19.1.1).

But the Richmond statue does something else: it makes us revisit the unrelievedly negative image of Caligula found in the ancient writers, whether Jewish or Roman. It is this view that the average museum-goer (whether a professional Classicist or an educated member of the general public) will almost inevitably bring to the statue. Yet, as Jucker’s description made clear, the man portrayed in the Richmond portrait “bears no insignia of his authority…[he] presents himself not first and foremost as the devout mediator between heaven and the Roman world but rather with an accentuated modesty as the first citizen” (Jucker 1973: 24). As we become aware of the stark contrast between the image Caligula propagated of himself *via* the Richmond portrait (for it is a fair assumption to see the Richmond Caligula as a reflection of that) and the way the ancient writers described him, our curiosity is aroused. When we delve into the modern scholarly evaluation of this emperor, we find that his image is no less contested; some scholars continue to see him as mad and irresponsible (e.g., Ferrill 1989); others attempt a “revisionist” approach and do their utmost to defend Caligula’s policies, if not his admittedly arrogant personality (Barrett 1989); still others try to steer a middle course between too much blame or too much praise (Hurley 1993).
The Richmond Caligula is important not only because it is so rare, well-preserved, and thought-provoking but because statues like this contributed to the young emperor’s downfall. According to the historical sources, one of the main causes of Caligula’s unpopularity was the allegation that in the last two years of his life he wished to be considered a god worthy of worship not only in the provinces (which was a well-established practice) but also in Rome itself (Josephus, *Jewish Antiquities* 19.1.4). Caligula established a private temple to his divine spirit (*numen*) in Rome, complete with a gilded statue which was dressed each day with the clothes the emperor was wearing, if Suetonius is to be believed (*Life of Caligula*, 22.2). Suetonius also reports that he joined his palace on the Palatine Hill to the Temple of Castor and Pollux in the Roman Forum, and he used the temple as the vestibule to his residence supposedly meeting visitors there and being hailed as the god Jupiter Latiaris (Suetonius, *Life of Caligula*, 22.2). As in case of other emperors, god-like statues were erected to him in cities throughout the Empire. Breaking with the precedent of earlier Roman rulers, Caligula ordered a statue of himself to be set up in the Jerusalem temple, but he was assassinated before the order was carried out. Meanwhile, Caligula offended Roman sensibilities by destroying the portraits of the great men of Rome’s past and forbade the erection of statues of living Romans unless he granted his permission (Suetonius, *Life of Caligula* 34.1; Kreikenbom 1992: 80).

Despite the Richmond Caligula’s unique status and intrinsic interest, it has never been the subject of a thorough study; although the secondary literature on it is broad—indicative of scholars’ recognition of its importance—it is not deep (see below, Appendix I, Bibliography C). In this application for a collaborative research grant, we outline a program of action that will increase scholars’ and the public's understanding of the portrait of Caligula and of imperial portraiture generally. Our intention is to conduct new, comprehensive research on the statue from June, 2010 to April, 2011, including a workshop for several project participants to be held on-site in Richmond in August, 2010; to present our results at a public conference to be held in April, 2011; and to make the reports given at the conference and related studies freely available on the Internet by December, 2011 at the end of the 18-month period of the grant.
2. Scope of the Research

We aim to provide the first in-depth study of this remarkable statue, an undertaking that is interdisciplinary in method and which relies heavily on digital technologies at the stages of both analysis and publication.

![Figure 2. Head of the Roman Emperor Caligula. Copenhagen, Ny Carlsberg Glyptotek 2687. Left: marble copy A of the head with polychromy restored (Østergaard 2004: 253, fig. 366). See also figure 10 in Appendix V for a larger reproduction of the color copy A and note the alternative reconstruction (copy B) in figure 11.](image)

Our study of the statue will start with the first detailed description of its current condition to be carried out by project member Kathy Gillis, head of VMFA’s Sculpture and Decorative Arts Conservation. This will be aided by a campaign of 3D data capture accurate to one-quarter millimeter which will allow us to document any surviving ancient tools marks as well as damage (for details, on 3D scanning technology and other technologies to be used, please see below in section 5 on Method). The collection of tool marks will make it possible to understand how the statue was sculpted. Through raking, UV and infrared light studies, Mark Abbe, our expert on polychromy, will search for signs of polychromy on the statue whose paint is now so faded as to be invisible to the naked eye. Using similar techniques, traces of paint were recently identified on a head in Parian marble of Caligula in the Ny Carlsberg Glyptothek in Copenhagen (figure 2), and Østergaard created two copies (“A” and “B”) in Carrara marble that were painted to show how the faded paint on the original head could be restored (see figures 10 and
11 in Appendix V). Polychromy of Classical sculpture is a topic of great interest to Classical art historians and archaeologists today (see Appendix I, Bibliography D).

On the basis of these findings we will make several 3D digital models: a “state model” showing the current condition of the statue; and one or more “reconstruction models” which will allow us to digitally repair any damage, restore the missing parts (e.g., the forearms), correct (if necessary) the alignment of the head, and restore the faded paint. The reconstruction model will incorporate our research group’s new collective vision of how colossal statues of Caligula such as the Richmond example originally appeared. If the group has significant disagreements, or if it finds that two or more alternative reconstructions are warranted by the state of the evidence, we will make different reconstruction models reflecting the various hypotheses of reconstruction. This policy was adopted by Østergaard for reconstructing the polychromy of the head of the Copenhagen Caligula, for which he offered two reconstructions (see Østergaard 2008b, 2008c; see figures 10-11 in Appendix V). Finally, the project’s ancient topographer, Prof. Liverani (former Curator of Antiquities at the Vatican Museums and currently Professor of the Sciences of Antiquity at the University of Florence) will try to establish the ancient context of the statue. Once our work is published on the Internet, this “total experience” will be available at no cost to students, scholars, and the general public around the world.

On this foundation of the physical evidence, we will then proceed to a number of historical and interpretative studies. The first step will be to determine the implications of the statue’s original topographical setting for its design and purpose. The Richmond “Caligula” was long thought to have been found near the ancient Theater of Marcellus in Rome (Jucker 1973:17), but Prof. Picozzi, the project’s expert on the Colonna collection of which the Richmond Caligula was long a part, has recently discovered new, still unpublished documentary evidence that disproves this report and puts the statue into

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1 On the restoration of the statue’s polychromy (something which, given the age and condition of the Richmond Caligula, will probably not be achievable with 100% certainty) it is important to note the following statement of philosophy of project participant Østergaard (2008:113): “such research-based reconstructions do not lay claim to accuracy, neither in the details nor in the technical and artistic quality of the original polychrome work. The aim is twofold: to support scholarly research, and to advance public understanding by presenting a version of the monochrome marble originals that is certainly closer to historical reality.”
an entirely different context: the site of Bovillae, ca. 18 km. down the Via Appia from Rome. This shift in topographical context needs to be supplemented by a study about exactly where in Bovillae the statue was erected. The town had ancient connections to the Julian family of Caligula. According to legend, when Alba Longa (founded by Aeneas’ son, Iulus, from whom the name “Iulius” was derived) was destroyed, its survivors moved to Bovillae, taking their cults with them. Here in historical times, annual chariot races were held here in honor of the Julians (Tacitus, *Annals*, 15.23.3); plays were put on in the theater. Here was located the shrine of the Julian clan (*sacrarium gentis Iuliae* (Tacitus, *Annals*, 2.40.1) which was erected by Caligula’s predecessor, Tiberius, who is also thought to have built the circus and theater (Coarelli 2007: 501). As the project’s ancient topographer, Prof. Liverani, delves into these matters, new light should be shed on a number of the statue’s most puzzling features such as the peculiarly modest self-presentation of Caligula in the Richmond portrait (noted by Jucker 1973: 24) and why it escaped destruction (noted by Varner 2004: 35-36).

The statue will be treated in the overall context of the emperor’s iconography in art and in his coinage. We will consider the Caligula in relation to other examples of monumental Julio-Claudian imperial images, such as the group (which also includes an over-size Caligula) from the theater at Cerveteri. We will address the role which portraits of Caligula played in the cultural and political history of Rome and its provinces, especially, Judaea, for which we have a number of ancient sources. We will compare and contrast the emperor’s sculpted image as propagated by the emperor himself in such works as the Richmond Caligula with Caligula’s very negative literary image as disseminated in writers such as Philo, Josephus and Suetonius. We will also discuss how the statue could have survived practically intact despite the widespread destruction of portraits of Caligula after the emperor’s murder in 41 A.D. and we will trace its history in modern times, from its discovery to its inclusion in the collection of the Palazzo Colonna in Rome and its arrival in Virginia in 1971.

We note that the purchase of the statue by the Virginia Museum of Fine Arts conforms to US law and the 1970 UNESCO Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property.
3. **History and Duration of the project**

As noted above, the portrait of Caligula was acquired by the Virginia Museum of Fine Art in 1971. In the 1970s, there were several short publications about it (Ternbach, Jucker). In the late 1980s Jerry Podany, now the head of antiquities conservation at the J. Paul Getty Museum, examined the statue with the aim of determining whether the head (which has been reattached) originally belonged to the body. Since the statue’s arrival in Richmond, it has been mentioned in passing in the scholarly literature on Caligula’s iconography (see below, *Appendix I, Bibliography C*).

Dr. Peter Schertz, project co-director, arrived at the Virginia Museum of Fine Arts (VMFA) as Curator of Antiquities in 2006. He immediately recognized that the Caligula was the gem of the antiquities collection and understood that there were many scholarly questions about it that still needed to be answered. He began discussing the possibility of a symposium on the statue with two project participants, Steven Fine and John Pollini, to be held following the completion of VMFA’s current expansion project and the reinstallation of the ancient art collection. When Project Director Bernard Frischer approached Schertz about creating 3D models of the statue and looking for traces of polychromy, it seemed logical to combine the two projects into one comprehensive study of this remarkable statue.

In 2009, Project Director Bernard Frischer, a classicist and archaeologist at the University of Virginia, founded the Virtual World Heritage ([http://vwhl.clas.virginia.edu](http://vwhl.clas.virginia.edu)). The mission of the laboratory is to explore applications of 3D digital technologies to research in the humanities, especially in the fields of archaeology, architectural history, and art history. The laboratory is home to “Rome Reborn,” an international initiative started by Frischer in the mid 1990s to create a digital model of ancient Rome in the year A.D. 320 ([www.romereborn.virginia.edu](http://www.romereborn.virginia.edu)). It is also home to other projects, including The Digital Sculpture Project ([www.digitalsculpture.org](http://www.digitalsculpture.org)) whose mission is to make freely available on the Internet a collection of 3D digital models of the world’s most significant sculpture as well as visualization and analytical tools needed to use the 3D models in scholarship (see Frischer 2008). It was these two projects that brought Frischer into contact with Schertz.
From their discussions resulted in the idea for the current project on the Richmond Caligula, an enlargement of the scope of the project Schertz was already planning. Originally, Frischer and Schertz thought they would re-contextualize the statue in the area of the Theater of Marcellus in ancient Rome, using the Rome Reborn model to do so (cf. fig. 3). As planning proceeded for this project, we learned about the exciting new documentary discovery of Prof. Picozzi proving that the Richmond Caligula originally was erected in Bovillae. This made it no longer appropriate to use the Rome Reborn model as a context for the digital 3D reconstruction model of the Richmond Caligula.

The project jointly developed by Frischer and Schertz, in consultation with the other scholars recruited to the team, is scheduled to run for eighteen months, from September 2010 to June 2012. Previous publications in scholarly journals on the Richmond Caligula are listed below in Appendix I, Bibliography B. The results will be published and made available at no cost on The Digital Sculpture Project website (www.digitalsculpture.org).

4. **Staff** (for CVs, please see Appendix II; for letters of commitment, Appendix III)

**Project Director:** Bernard Frischer, Professor of Art History and Classics; Co-Director of The Digital Sculpture Project; and Director of the Virtual World Heritage Laboratory at the University of Virginia. Frischer has written a book on the portrait statue of the philosopher Epicurus, the second edition of which contains digital reconstructions of the lost Greek original which is attested by over 35 fragmentarily-preserved Roman copies (see Frischer 2006). He has directed the excavation of Horace’ Villa and has overseen many significant projects of digital reconstruction of cultural heritage sites and artifacts, including Rome Reborn (www.romereborn.virginia.edu), a digital model of ancient Rome in the year A.D. 320 fig. 3). Frischer’s responsibilities include recruiting the members of the scholarly, scientific, and technology teams; management of funds; editing of the final publication.
Figure 3. A still shot of Rome Reborn 2.0, an interactive digital model of ca. 7,000 buildings covering over 25 sq. km of space in the year A.D. 320. In this shot we see the colossal bronze statue (100 Roman feet tall) of the Sun god in the plaza to the west of the Flavian Amphitheater (called “Colosseum” because of its proximity to this statue). The image shows the utility of 3D digital architectural models such as “Rome Reborn” to recontextualize works of art. In the “Caligula” project, we will provide such recontextualization by putting the 3D digital reconstruction model of the statue into a digital model of the architectural space where it was found: the imperial cult sanctuary at Bovillae, 18 km south of Rome.

Project Co-Director: Peter Schertz, Curator of Antiquities, Virginia Museum of Fine Arts. Dr. Schertz will be responsible for coordination between the project and the museum; he will help to plan and organize the visits by members of the project team to the museum; he will help to plan and organize the public conference in April, 2011; he will present the paper “Exhibiting Caligula: The Image of Caligula in American Culture” at the public conference; and he will co-edit the final publication.

3D Data Capture and Modeling: Michael Raphael, President, Direct Dimension. He earned a BS degree in Engineering Science and Mechanics from Virginia Tech, followed by a Masters of
Engineering Administration from George Washington University. During his 10 years at Lockheed Martin as an engineer responsible for solving aerostructures manufacturing quality problems, Michael co-developed the FaroArm portable 3D coordinate measuring device (CMM). In 1995, he founded Direct Dimensions, Inc., now in its 14th year of providing rapid solutions to 3D problems. Raphael will be responsible for 3D data capture and modeling of the Richmond Caligula. The work of the company in the field of 3D data capture and digital modeling of sculpture was the subject of an important article in *Sculpture Review* published in 2007 (see Appendix IV).

**Conservation:** Kathy Z. Gillis, Head of Sculpture and Decorative Arts Conservation, Virginia Museum of Fine Arts, will be responsible for conservation issues concerning the statue. She has recently supervised the recent conservation, cleaning, and technical study of the museum’s monumental statue of Emperor Septimius Severus (inv. 67.50; see Appendix V), a seventeenth century pastiche of parts that are ancient (head and torso) and modern (arms, legs, and parts of the hair). In this project, she will be responsible for providing an initial condition report on the statue. She will coordinate the work of Abbe and Raphael. She will write a report for inclusion in our final web publication. If Abbe’s raking light studies find traces of paint, she will be responsible for taking any samples.

**Analysis of Polychromy:** *Mark Abbe.* A doctoral candidate in Art History at NYU, Mr. Abbe’s will conduct research to determine whether there are any traces of polychromy on the Richmond Caligula. He has ample experience in this field, as his curriculum vitae attests. If traces are found, he will determine the pigments by subjecting the samples to SEM/EDS/microXRF and FTIR analysis. He will work with Frischer to ensure that the colors used in the reconstruction model(s) are correct. He will also work closely with Direct Dimensions to oversee the creation of the
reconstruction model of the statue. He will give a public paper on his findings and write a report for our final web publication.

**Researcher Collaborators:**

*Steven Fine:* Professor of Jewish History at Yeshiva University in New York, head of the Department of Jewish History at Yeshiva College, and Director of Yeshiva University’s Center for Israel Studies. He is a cultural historian, specializing in Jewish history in the Graeco-Roman world. He focuses on relationships between the literature of ancient Judaism, art and archaeology. Holding a doctorate in Jewish history from the Hebrew University of Jerusalem, an MA in art history from the University of Southern California and a BA in religious studies from the University of California, Santa Barbara, Professor Fine is also an alumnus of Jerusalem’s Pardes Institute for Jewish Studies and of Yeshiva University of Los Angeles. Fine’s unique blend of history, rabbinic literature, archaeology and art is expressed in a broad range of publications. The author of academic monographs, museum catalogs, articles and even a book for children, Professor Fine’s most recent book is *Art and Judaism in the Greco-Roman World: Toward a New Jewish Archaeology* (Cambridge, 2005), the second edition of which will appear in late 2009. He is an editor of *IMAGES: A Journal for the Study of Jewish Art and Visual Culture*. In our project, he will be responsible for researching the relationship between Caligula and the Jews with particular emphasis on the emperor’s abortive attempt to install a portrait of himself in the Temple in Jerusalem.

*Paolo Liverani:* From 1986-2005, Curator of Antiquities, Vatican Museums; from 2005-present, Professor of Classical Archaeology, University of Florence. Liverani will be responsible for studying the ancient location of the statue—as recently established by project participant Picozzi—and for analyzing the significance of the find spot. He will also be responsible for working with Abbe, Gillis, Frischer, and Østergaard to reconstruct the statue’s polychromy. He
will give a paper on these topics at the public conference; and he will publish his papers in the final web publication. His many publications on ancient Roman topography and art, including imperial portraiture, make him highly qualified to undertake this research.

Jan Stubbe Østergaard. Curator of Antiquities, Ny Carlsberg Glyptotek (Copenhagen). Dr. Østergaard is an expert on the polychromy of ancient sculpture. He is also an authority on the iconography of Caligula. He will co-author the paper whose primary author will be Prof. Liverani.

*Maria Grazia Picozzi*: Professor of History of Archaeology and Director of the Museum for Classical Art at the University of Rome (“La Sapienza”). Prof. Picozzi (with F. Carinci, H. Keutner, L. Musso) is the author of the standard monograph on the history of the Colonna collections in Rome, to which the Richmond Caligula once belonged (*Catalogo della Galleria Colonna in Roma. Sculture*, 1990). She will contribute a paper to the public conference and web publication about the statue from the time it was discovered until its sale in 1971 to the Virginia Museum of Fine Arts. Her paper will present the definitive new documentary evidence about where the statue was originally erected in antiquity.

*John Pollini*: Professor of Art History at the University of Southern California. Pollini is an expert on Roman portraiture, especially of the Augustan and Julio-Claudian periods. He has written on the question of Caligula’s alleged madness, the biases of the ancient and modern writers in assessing Caligula’s character and reputation, and what he believes to be the misunderstanding of Caligula’s decree that his statue be set up in the Temple of in Jerusalem. These matters are also dealt with in a chapter titled “The Insanity of the Caligula or the Insanity of the Jews: Differences in Perception and Religious Beliefs” in his forthcoming book *From Republic to Empire: Rhetoric, Religion, and Power in the Visual Culture of Ancient Rome*. He
will study the place of the Richmond Caligula in the overall iconography of Caligula; he will present a paper on this topic at the public conference, which will be included in the final web publication.

Vasily Rudich: An independent scholar based in New Haven, CT, Rudich is one of the leading historians on the Julio-Claudian period. He is the author of a three-volume work on the Neronian age (Rudich 1993; Rudich 1997; Rudich forthcoming). He will study the changing image of Caligula in literary sources from antiquity to the present day. The results will be presented at the public conference and included in the web publication of the project.

Eric Varner: Professor of Art History, Emory University. Varner is an expert on damnatio memoriae in ancient Rome (Varner 2004). His book on this subject includes a chapter about the portraits of Caligula. He will research the circumstances behind the survival of the Richmond Caligula, particularly addressing the issue of why the statue is so well preserved. He will present a paper on this topic at the public conference, which will be included in the final web publication.

5. Methods

1. **How central research questions will be approached.** This is an interdisciplinary project involving a range of methodologies. We believe that interpretation of the Richmond Caligula must be based on a firm understanding of the statue’s state of conservation and its reconstruction. So the first methodologies include the visual examination of the statue by VMFA’s conservators to be followed by 3D data capture at the sub-millimeter level of resolution in order to detect damage but also tool marks. The latter can give us useful information for understanding how the piece was sculpted. Capture of any surviving data about the statue’s polychromy (no longer visible to the naked eye) will be collected by Abbe using the techniques of raking UV and infrared light. Any traces of pigment that are detected will then be sampled and chemically
analyzed, if the museum conservation department concurs that this can be done without damage to the statue.

On the basis of the physical information thus gathered, we will create two kinds of 3D digital models of the statue: the first showing its current state, or condition (the “state model”); the second showing how it probably looked when new, with missing and damaged parts as well as painting restored (the “reconstruction model”). Note that if the evidence does not support a single reconstruction, we will prepare two or more versions to do justice to the state of our knowledge about the statue. The data will be captured by an instrument such as the Breuckmann smartSCAN structured light scanner, which offers an accuracy of up to 40 micrometers. Polyworks and Geomagic software will be used for postprocessing and modeling of the 3D data captured by the scanner. The data capture, “state model” and first draft of the “reconstruction model” will be done by Direct Dimensions, a Maryland-based company with extensive experience in the application of 3D digital technologies to cultural heritage projects (see Appendix IV). Working with our scholarly team, Direct Dimensions will modify this first draft of the “reconstruction model” to create the final version(s) reflecting the conclusions of our project participants. The Virtual World Heritage Laboratory will make the 3D digital models available at no cost on our project website using the software being developed by CCRM Labs and code-named “Venus.

After these descriptive and reconstructive methodologies have been employed, the work of interpretation can begin. These include: topographical analysis (by Prof. Liverani) to see what can be established about the statue’s original location in Bovillae as well as its rediscovery and display in a famous Roman collection, the Galleria Colonna (by Prof. Picozzi); iconographical analysis (by Prof. Pollini) to place the Richmond Caligula into the overall context of the portraiture of the emperor; restoration studies (by Abbe, Gillis, Liverani-Østergaard) to restore the missing parts of the statue, including its painting; numismatic analysis of the image and messages conveyed by Caligula both through his personal image as well as through slogans and
other images appearing on his coinage (by Prof. Pollini); political analysis of the role played by statues such as this in imperial propaganda (by Prof. Liverani); religious analysis of the Jewish attitude toward Roman imperial images (by Prof. Fine); political and anthropological analysis of the practice of damnatio memoriae (by Prof. Varner) to understand both the impulse to destroy the portrait of an unpopular leader and the peculiar circumstances that may have permitted the Richmond Caligula to survive so well intact when almost all the other full-length statues were either destroyed or re-cut as the Emperor Claudius (Caligula’s uncle and successor); and literary and psychological analysis of the image of Caligula in the written treatments from antiquity down to the present day (by Dr. Rudich). Finally, project Co-Director Schertz will give a synthetic account of the project and how it has created—both in the museum and on the Internet—a “total environment” facilitating understanding of the Richmond Caligula by students, scholars and the general public.

2. Computer technologies to be employed. The Digital Sculpture Project has the goal of studying the use of 3D digital technologies for the data capture, modeling, and analysis of sculpture from the around the world. It was inspired by the development in the 1990s of the 3D scanner, which made it possible to capture the geometry of complex forms such as statues with sub-millimeter accuracy (see Lambers and Remondino 2008).

The Digital Sculpture Project takes the position that 3D digital models will gradually replace casts as the primary means of copying original works of sculpture. Casts have been used for two centuries in archaeology for the following purposes (Borbein 2000: 37-38): to duplicate originals and disseminate them to geographically remote study collections; to test hypotheses for reconstructing damaged sculpture; to restore polychromy; and to facilitate studies (such as precise measurements) that are more difficult with originals in museums or in storage (and, of course, impossible when the originals are located elsewhere).
The new digital tools offer distinct advantages over physical casts: digital copies can be more easily reproduced and distributed; they are more accurate; and they can be supplemented or their elements rearranged with greater speed and at far lower cost than can the equivalent casts.

3. **The research workshop and public conference.** The participants in this project and the related workshop (November, 2010) and public conference (December, 2011) were chosen because of the relevant previous work they have done on topics related to the various aspects of the Richmond Caligula that have yet to be addressed in the scholarly literature (see Appendix I, Bibliography).

   a. **Research workshop (November, 2010).** By November 1, 2010, the physical data about the Richmond Caligula will have been collected, analyzed and processed. By that date, the report on polychromy will have been written by Abbe, and the two 3D digital models will be finished. The report and models will be distributed by Frischer and Schertz to the research collaborators whose work is more “object-oriented,” namely Frischer, Liverani, Pollini, and Varner. The week of August 9, 2010 Frischer, Schertz and the four art historians will meet at the museum in a research workshop to study the statue, Abbe’s report and the 3D digital models. Such a meeting would not normally be possible at a regular scholarly conference since the participants are not, in fact, members of a common professional organization, they come from three countries on two continents, and none of them knows more than two of the other members of the group. Thus, the workshop will play a critical role in making true collaboration and a real meeting of minds possible. As a result of the workshop, the 3D reconstruction model may have to be adjusted, a task that Frischer will coordinate with Raphael in the weeks subsequent to the workshop. If the model is adjusted, the new version will be made available to all conference participants well in advance of the conference.
b. **Public conference (December, 2011).**

Approximately twelve months after the workshop, all the collaborators will gather in Richmond, VA for a one-day public conference dedicated to the Richmond Caligula. Drafts of all the papers will be circulated at least two weeks before the conference so that all participants will have a chance to read and comment on them. Shortened versions of the papers—not to exceed 20 minutes—will be presented at the public conference to be held in the new conference facility of the Virginia Museum of Fine Arts. After each paper is delivered, a discussant will talk about its strengths and weaknesses for 5 minutes and then preside over a 5-10 minute period of general discussion with questions and comments from the audience as well as from the other speakers. At the end of the day, the conference participants will have a working dinner at which they will agree on next practical steps for harmonizing their work and completing the final versions of their written papers by no later than February 1, 2012, at which point work on the final web publication will commence. A proposed program of the conference follows below:

**“Creating a ‘Total Environment’ for the ‘Caligula’ in the Virginia Museum of Fine Arts (Richmond, VA)”**

(Tentative Date: Sunday, December 4, 2011)

*10:00 a.m. Peter Schertz* (Virginia Museum of Fine Arts): Welcome and Introduction.

*10:15 a.m. John Pollini* (University of Southern California): “The Importance of the Richmond Caligula and Its Place in the Iconography of Caligula.”

*Discussant: Schertz.*
10:45 a.m. Paolo Liverani (University of Florence). “The Richmond Caligula in Its Topographical Context: On the Location and Display of Imperial Sculpture in Rome and Other Cities of the Roman Empire.”

Discussant: Pollini.

11:15 a.m. Paolo Liverani (University of Florence): “Restoring the Arms and Polychromy of the Richmond Caligula.”

Discussant: Varner.

12:00 p.m. ---Break for lunch---

1:15 p.m. Steve Fine (Yeshiva University): “Caligula, His Portrait Statue, and the Jews.”

Discussant: Rudich.

1:45 p.m. Eric Varner (Emory University): “How the Richmond Caligula Survived Damnatio memoriae.”

Discussant: Pollini.

2:15 p.m. Maria Grazia Picozzi (University of Rome [“La Sapienza”]): “The Modern History of the Richmond Caligula.”

Discussant: Liverani.

2:45 p.m. Vasily Rudich: “The Image of Caligula in Ancient and Modern Historians.”

Discussant: Fine.

3:15 p.m. Peter Schertz (Virginia Museum of Fine Arts): “Exhibiting Caligula: The Image of Caligula in Modern America.”

Discussant: Frischer.
3:45 p.m. Bernard Frischer (University of Virginia): “Conclusion. What We’ve Learned. What’s Next on the Research Agenda.”

3:30 p.m. Refreshments and a chance for informal discussions.

6. Final product and dissemination

The final results of this project will be made available at no cost on the website of the The Digital Sculpture Project, hosted by the Virtual World Heritage Laboratory of the University of Virginia. Bernard Frischer and Peter Schertz will serve as co-editors of the publication; Frischer will also serve as web designer and webmaster. Web publication has been selected to minimize costs and to maximize access. It is also the only way possible to make the two 3D digital models to be created by the project available to scholars and the general public: this would not be possible with a printed publication. In this connection we note that ScanView, our software for interactive viewing of 3D digital models of artifacts such as statues has been successfully used for the past six years to make over 1,500 3D digital models of cultural heritage artifacts and works of art available to hundreds of thousands of users. We use only standard digital file formats (e.g., JPEG, 3ds, etc.). The Virtual World Heritage Laboratory commits itself to hosting the project website for at least five years and, ideally, for much longer. If it should ever find itself unable to continue offering this service, it will find a responsible academic unit at the University of Virginia or elsewhere to which to transfer the data.

7. Work plan

Months 1-2: Gillis will prepare report on current state of the statue and Abbe will visit Richmond to search for traces of polychromy on the statue; he will write his report. Raphael will scan the Caligula and make the state model. Once Abbe’s report on polychromy is received, Raphael will make the first version of the reconstruction model to add missing pieces, smooth out scratches and other damage, and to add color.
**Month 3:** Abbe, Schertz, Frischer, Gillis, Liverani, Pollini, and Varner will hold a three-day **workshop** at the museum to study the statue and to discuss Abbe’s’s report and the 3D models.

**Months 4-8:** Any changes to the reconstruction model arising from the workshop will be made by Frischer’s lab. If two or more hypotheses of reconstruction emerge from our research, Frischer’s lab will make the additional reconstruction model(s). Frischer’s lab will generate high-resolution still images of the model(s), which will be distributed to all project participants. Schertz and the museum staff will prepare for the public conference; participants in the conference will write the first drafts of their papers. Papers will be circulated to all participants no later than two weeks before the conference.

**Month 15:** The public **conference** is held.

**Months 17:** Final versions of the papers will be written and submitted to Frischer for editing.

**Months 17-20:** Frischer and Schertz will prepare the final web publication.
APPENDIX I:

BIBLIOGRAPHY

A. On Caligula’s Life and Reign


B. General Works on Caligula’s Portraiture


C. On the Richmond Caligula


**D. Other Works Cited**


Appendix II:

PARTICIPANTS’ CVs
Steven Fine

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Riverdale, NY 10471
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Website: http://www.cojs.info/stevenfine

Education--Selected
Doctor of Philosophy, Department of Jewish History, Hebrew University of Jerusalem, 1987-94.
Master of Arts Degree, Department of Art History, University of Southern California, Los Angeles, 1980-84.
Bachelor of Arts Degree, Religious Studies, Jewish Studies Emphasis, University of California, Santa Barbara, 1976-79, including 1977-78 at the Hebrew University of Jerusalem.

Awards and Fellowships—Selected
University Research Council Faculty Research Support for Studies in Jewish-Samaritan Relations During Late Antiquity, Phase 2, University of Cincinnati, 2005.
Lady Davis Fellow, Hebrew University of Jerusalem, 1988-89.

Academic Appointments--Selected
Professor of Jewish History, Yeshiva University, 2005-present.
Jewish Foundation Professor of Judaic Studies, Department of Judaic Studies, University of Cincinnati, 2003-2005.
Jewish Foundation Associate Professor of Judaic Studies, Department of Judaic Studies, University of Cincinnati, 2001-2003.
Visiting Professor, Rothberg International School, Hebrew University of Jerusalem, M.A. Program in Jewish Studies, Fall, 2000.
Associate Professor of Rabbinic Literature and History, Baltimore Hebrew University, 1997-July, 2001.
Assistant Professor of Rabbinic Literature and History, Baltimore Hebrew University, 1994-98.

Publications--Selected
Books
This Holy Place: On the Sanctity of the Synagogue During the Greco-Roman Period, Christianity and Judaism in Antiquity Series, Notre Dame University Press, 1997.

God's Artisan: Bezalel, the Biblical Artist, from Moses to Modern Israel. (tentative title), in preparation.


Articles


Bernard Frischer

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Personal web page: www.frischerconsulting.com/frischer

(a) Professional Preparation
Undergraduate Institution(s): Wesleyan University (CT), Classics, B.A., 1971
Graduate Institution(s): Heidelberg University (Germany), Classics, Ph.d.1975
Postdoctoral Institution(s): American Academy in Rome, Rome Prize Fellow in Classics, 1974-1976

(b) Appointments
Professor, Departments of Classics and History of Art, University of Virginia, 2004—present
Director, Virtual World Heritage Laboratory, 2009—present
Visiting Professor, Beijing Normal University, September, 2009
Director, Institute for Advanced Technology in the Humanities, U. of Virginia, 2004—2009
Professor –in-charge, Intercollegiate Center for Classical Studies, Rome, 2001-02
Director, UCLA Cultural Virtual Reality Lab, 1998—2004
Director, UCLA office of the University of California Education Abroad Program, 1992-1998
Visiting Professor, University of Pennsylvania, Fall Semester, 1994
Visiting Professor, University of Bologna, Fall Semester, 1993
Director, Italy Study Center of the University of California Education Abroad Program, 1988-90
Director, UCLA Humanities Computing Facility, 1987-88
Chair, UCLA Department of Classics, 1984-1988
Professor, Classics UCLA, July, 1976—June, 2004

(c) Awards
Tartessos Prize, Spanish Society of Virtual Archaeology, 2009; Pioneer Award, The International Society for Virtual Systems and Multimedia, 2005; Loeb Classical Research Fellow, 2003-04; Paul Mellon Senior Fellowship at the Center for Advanced Study in the Visual Arts, National Gallery, Washington, D.C. (2 semesters, 1997); Resident in Classical Studies, American Academy in Rome, 1996; ACLS Fellowship, 1996-97; UCLA Classics Department Nominee for UCLA Distinguished Teaching Award, 1995; University of California Exchange Professor to the University of Bologna, Fall, 1993; ACLS Fellowship, 1981-82; Rome Prize Fellow in Classics, 1974-76; Ph.D. summa cum laude (1975); Junior Fellowship, Michigan Society of Fellows (1971-74); Woodrow Wilson Fellow (declined), 1971; B.A. summa cum laude, 1971; Phi Beta Kappa, 1970.

(d)(i) Publications Related to the Project
Frischer, B., Dakouri-Hild, A., editors. Beyond Illustration. 2D and 3D Digital Technologies as Tools for Discovery in Archaeology, BAR International Series 1805 (Oxford, 2008) 168 pp. I also wrote the
introduction (“From Digital Illustration to Digital Heuristics,” pp. v-xxiv). This book is also available online at http://hdl.handle.net/2027/heb.90044.


(d)(ii) Other significant publications


Prof. Paolo Liverani
Dipartimento di Scienze dell'Antichità, University of Florence
paolo.liverani@unifi.it

Education and Employment:

1982: degree in Classics; 1991 PhD (diss.: The classical topography of the Vatican)
1986-2005: Curator of the Department for Classical Antiquities of the Vatican Museum
1991-2005: Professor for Museography and Theory of Restoration at the Pontifical Gregorian University (Rome)
2005 to present: Professor for the Topography of Ancient Italy at the University of Florence


Major Publications:


P. Liverani – G. Spinola, La necropoli vaticana lungo la via Trionfale, Roma 2006


“Victors and Pilgrims in Late Antiquity and the Early Middle Ages”, Fragmenta 1, 2007, pp. 82-102


“Dal trionfo pagano all’ adventus cristiano: percorsi della Roma imperiale”, in Anales de Arqueología Cordobesa 18, 2007, pp. 385-40


“Interventi urbani a Roma tra il IV e il VI secolo”, in Cristianesimo nella storia 29.1, gennaio 2008, pp. 1-31

“Cesare urbanista”, in Giulio Cesare. L'uomo, le imprese, il mito (exhibition cat., Roma 2008), Milano 2008


“Saint Peter’s, Leo the Great and the leprosy of Constantine”, in Papers of the British School at Rome 76, 2008, pp. 155-172


Prof. Maria Grazia Picozzi  
Dipartimento di Scienze storiche, archeologiche e antropologiche dell’antichità  
Sapienza Università di Roma – Piazzale A. Moro,5 – 00185 Roma  
Tel. 0039 06 49913853; cell. 3356804240  
mariagrazia.picozzi@uniroma1.it

Education and Employment:
Sapienza Università di Roma - Degree in Classics  
1971: Scuola Archeologica Italiana di Atene (Scholarship)  
1972-1980: Sapienza Università di Roma - Assegnista di ricerca  
1992-1995: University of Siena- Associate Professor (Archeology of the Roman Provinces)  
1995-2003: Sapienza Università di Roma - Associate Professor (History of Archaeology)  
2003 to present: Sapienza Università di Roma- Professor (History of Archaeology)  
2004 to present: Director of the Museo dell’Arte Classica (Gipsoteca), Sapienza Università di Roma  
Since 1993 Member of the Pontificia Accademia Romana di Archeologia.

Selected Publications: 


M.G. Picozzi, Restauri del XVIII secolo per sculture appartenute alla collezione Vitelleschi, in Illuminismo e Ilustración. Le antichità e i loro protagonisti in Spagna e in Italia nel XVIII secolo (a cura di J.Beltràn Fortes, B. Cacciotti, X. Dupré Raventós y B. Palma Venetucci), Bibliotheca Italica, 27, Roma 2003, pp. 313-328.


M. G. Picozzi, Ritratti dalla collezione Caetani nei Musei Capitolini, in Bollettino dei Musei Comunali di Roma, n.s. XVIII, 2004, pp. 27-44.


John Pollini: Biography

John Pollini is Professor of Classical Art and Archaeology in the Department of Art History at the University of Southern California. He received both his M.A. and Ph.D. from the University of California at Berkeley in the interdepartmental program in Ancient History and Mediterranean Archaeology. After completing his doctoral work in 1978, he taught as a Mellon Postdoctoral Fellow at Case Western Reserve University before being appointed an assistant professor in the Department of Classics at Johns Hopkins University, where he also served as Curator of the University's Archaeological Museum. At the University of Southern California, where he has taught since 1987, he has served as Chair of the Department and as Dean of the School of Fine Arts. In the past he has participated in excavations at Aphrodisias in Turkey and in Tuscany, Italy.

Professor Pollini has received numerous fellowships and awards, including a Guggenheim Foundation Fellowship, two American Council of Learned Societies Fellowships, two National Endowment for the Humanities Fellowships, and a Fulbright Fellowship to Italy. In 2005 he was also the recipient of a Mellon Foundation Award for Excellence in Mentoring Students and in 2006-2007 was appointed the Whitehead Professor of Archaeology at the American School of Classical Studies at Athens. Among his other honors, he is an elected life member of the German Archaeological Institute. He has recently been nominated for the Humboldt’s Research Prize to Germany.

Professor Pollini has lectured widely both in the United States and in Europe. In addition to numerous articles and reviews, he has authored four books and edited another, all dealing with various aspects of Greek and Roman art, considered in an interdisciplinary context.* There is forthcoming with the University of Oklahoma Press another book, titled From Republic to Empire: Rhetoric, Religion, and Power in the Visual Culture of Ancient Rome, and he is currently working on two other book projects: one titled Dynastic Narratives in Augustan Art and Thought: The Rhetoric and Poetry of Visual Imagery and the other, Christian Destruction and Desecration of Images of Classical Antiquity: A Study in Religious Intolerance and Hatred in the Ancient World.

* Major Publications (Books, Monographs, Catalogues):


II) Roman Portraiture: Images of Character and Virtue, with graduate student participation (Fisher Gallery, Los Angeles 1990).


IV) The de Nion Head: A Masterpiece of Archaic Greek Sculpture (Philipp von Zabern, Mainz 2003).

Michael Raphael,  
Founder & Owner, Direct Dimensions

Michael Raphael founded Direct Dimensions, Inc. (DDI) in 1995 as an engineering company to provide a “one-stop shop” for technical services, product representation, sales, and support for all types of 3D measurement solutions. Over the past 14 years, DDI has expanded significantly to provide the most comprehensive advanced 3D scanning & imaging technologies, digital modeling capabilities, and analysis software solutions for the widest range of applications and industries.

Today Direct Dimensions employs over 20 technical and professional staff and performs hundreds of 3D imaging and modeling projects every year using widest variety of solutions with emphasis on close-range 3D imaging solutions. See www.directdimensions.com for much more information.

Michael started in the field of 3D metrology in 1985 as an engineer responsible for solving aerospace manufacturing problems at what became Lockheed Martin Corporation. While there, Michael helped develop a revolutionary new portable three-dimensional industrial measurement technology, called the FaroArm, used today throughout the world. Following several years of in-plant development, Michael left aerospace to form Direct Dimensions, Inc. in 1995.


Company Overview

Founded in 1995, Direct Dimensions, Inc. specializes in the application and sales of advanced 3D imaging and industrial measurement products for the solution of complex 3D problems. We provide solutions for a wide range of fields from design, engineering, and manufacturing to art, sculpture, and architecture. We specialize in the unique application of advanced 3D scanning and imaging systems and the conversion of raw ‘point-cloud’ data into high-resolution/high-accuracy 3D computer CAD models for subsequent downstream manufacturing, analysis, and visualization applications.

Manufacturing applications include the digital replication of industrial and engineered products including consumer, automobile, aerospace, and military components – otherwise known as “reverse engineering.” Other manufacturing related applications include the measurement of existing components for the digital comparison of actual parts, tools, and molds to the intended engineering design requirements – otherwise known as “computer-aided inspection” for quality control. Replication Services applications include a wide variety of art, sculpture, medical, and historic preservation projects.

Technical service projects over the 14-years have included military and aerospace such as helicopters, airplanes, and satellites; consumer products such as power tools and sports equipment; medical devices such as prosthetics and implants; ground vehicles such as cars, trucks, school buses, and motorcycles; and various sculpture and architecture. Notable projects include the original Wright Brother’s airplane propeller, the Liberty Bell, the Tomb of the Unknown Soldiers, several military and commercial jets, a U.S. Army soldier’s nose surgery, and many notable museum sculptures and large architecture projects.

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Education

Honors Diploma (equivalent to MA)
Department of Ancient Greek and Roman History, Historical Division,
Leningrad State University, USSR, 1972
Ph.D., Department of Classics, Yale University, 1984

Employment

Acting Instructor, Department of Classics, Yale University, 1983-84
Lecturer, Department of Classics, Yale University, 1984-1985
Assistant Professor, Department of Classics, Yale University, 1985-91
Associate Professor, Department of Classics, Yale University, 1991-95
Blegen Professor of Classics, Vassar College, 1996-97
Historical Consultant, Rome Reborn Project, UCLA, 1997-2003
Visiting Professor of Classics, Vassar College, 2002
Historical Consultant, Institute for Applied Technology in Humanities,
University of Virginia, 2003-2005
Recipient of private grants for the current work-in-progress, 2006-

Publications

Political Dissidence under Nero: The Price of Dissimulation
(London, Routledge, 1993)

Literature and Dissidence under Nero: The Price of Rhetoricization
(London, Routledge, 1997)

Beyond Dissimilation: Religious Dissent in Judaea at the time of Nero (forthcoming in 2010,
London, Routledge)

and numerous articles on Roman and Russian history and literature.

Fellowships

Yale University Fellowship, 1976-1984
Prize Teaching Fellowship, Yale University, 1980-1981
Whiting Fellowship in Humanities, 1981-1982
Morse Scholarship, Yale University, 1987-1988
John M. Ollin Fellowship, 1995-1996
Awards

Routledge Ancient History Prize for the book *Political Dissidence under Nero: The Price of Dissimulation*, 1993
Yale Faculty Miskimmin Prize for Excellence in Teaching Humanities, 1995

Conferences

The Hermann Broch Centennial (Yale, 1987)
Russian Literature and Religion in the Beginning of the XXth Century (Naples, 1989)
The Mikhail Rostovtsev International Conference (Moscow-St.Petersburg, 1993)
The Horace Bimillennium (UCLA, 1993)
Censorship in European Culture, (University of Washington, Seattle, 1998)
Conference on Petronius (Boston University, 1999)

Participation

SPQR: The Empire's Darkest Hour - an educational computer game
(consultant and historical writer)

References

Professor Fergus Millar, Oxford University
Dr. Miriam Griffin, Oxford University
Professor Tessa Rajak, University of Reading
Professor Peter Green, Universities of Texas, Austin and of Iowa
Professor Ramsay MacMullen, Yale University
Professor Donald Kagan, Yale University
Professor Victor Bers, Yale University
Professor Herbert Goldner, Boston University
Professor Bernard Frischer, University of Virginia
Professor Darby Scott, Bryn Mawr College
Professor William Mullen, Bard College
Appendix VI:

Photographs

The Richmond Caligula (figures 5-9)

(Virginia Museum of Fine Arts, 71-20)

The Copenhagen Color Copies (figures 10-11)

Reconstruction A (figure 10)

Reconstruction B (figure 11)
Figure 5. The Richmond Caligula.
Figure 6. The Richmond Caligula.
Figure 7. The Richmond Caligula.
Figure 8. The Richmond Caligula.
Figure 9. The Richmond Caligula.
Figure 10. The Copenhagen Reconstruction A of Caligula’s head.
Figure 11: Copenhagen Reconstruction B.