

# ROMINA NESPECA

*Ph.D., Engineer in Construction Engineering and Architecture  
specialized in digital 3D documentation of Cultural Heritage  
SSD ICAR 17, 08/E1 DRAWING*

## EDUCATION

From November 06, 2018 to November 06, 2024 <u>ASN qualification</u>	National Scientific Qualification 2016-2018 (ASN-Abilitazione Scientifica Nazionale) Second band, sector 08/E1-DRAWING
November 2012 - October 2015 <u>PhD school</u>	Ph.D. School in Engineering Sciences, Cycle XIV, curriculum Civil, Building Engineering and Architecture. Fields of research: drawing, representation and survey architecture. Dissertation title: <i>"Point Cloud as Informative System. From integrated survey to digital documentation of Cultural Heritage"</i> ; Oral defence: March 9, 2016; Supervisor: P. Clini Polytechnic University of Marche - Faculty of Engineering, Ancona, Italy
May to July 2015 <u>Stage</u>	Stage entitled "Analysis, cartography and information extraction from point cloud to ontology for software development". Laboratory MAP (UMR 3495 CNRS/MCC) <i>Modèles et simulations pour l'Architecture et le Patrimoine</i> - Ecole Nationale Supérieur d'Architecture of Marseille
June 1-8, 2014 <u>summerschool</u>	Summerschool "Surveying and 3D Modeling" at Paestum Bruno Kessler Foundation and University of Salerno
January 2011- November 2012 <u>PhD school</u>	Ph.D. School, Cycle XII, curriculum Analysis and Design of Architecture and Landscape Polytechnic University of Marche - Faculty of Engineering, Ancona, Italy
2010 - 2nd session <u>Licensed Engineer</u>	Member of National Association of Civil and Environmental Engineers, Province of Ancona, from 09/05/2011, number 3504 Polytechnic University of Marche - Faculty of Engineering, Ancona, Italy
October 2002 - July 2010 <u>University</u>	Graduated in Construction Engineering and Architecture (4/S D.M. 509/1999) with grades 109/110 and thesis: <i>"Multi-images projection techniques for communication and preservation of architecture. The design of a holographic bell."</i> Supervisor: P. Clini Polytechnic University of Marche - Faculty of Engineering, Ancona, Italy
September 1997 - July 2002 <u>High School</u>	School Teaching Certificate with grades 100/100 Secondary School Focusing on Humanities and High School of Education E. Trebbiani of Ascoli Piceno, Italy

## WORK EXPERIENCE

November 12, 2018 – December 17, 2018	<u>Course of 3D data processing by laser scanner and digital photogrammetry.</u> Istituto Tecnico Corinaldesi di Senigallia (AN)
a.y. 2018/2019 teaching support	<u>Adjunct professor for teaching support in “Architectural Survey”</u> Polytechnic University of Marche - Faculty of Engineering, Ancona, Italy
June 1, 2018 – May 31, 2019 research	<u>Research grant about “Acquisition, management and modelling data for digital documentation of Cultural Heritage and Building.”</u> Polytechnic University of Marche - Faculty of Engineering, Ancona, Italy
a.y. 2017/2018 teaching support	<u>Adjunct professor for teaching support in “Architectural Survey”</u> Polytechnic University of Marche - Faculty of Engineering, Ancona, Italy
November 13, 2017-today teaching	<u>MOOC course “The acquisition of the three-dimensional data for the documentation of the Cultural Heritage ”, pathway in Digital Cultural Heritage</u> Polytechnic University of Marche - online platform Eduopen <a href="https://learn.eduopen.org/eduopenv2/course_details.php?courseid=274">https://learn.eduopen.org/eduopenv2/course_details.php?courseid=274</a>
June 1, 2017 – May 31, 2018 research	<u>Renewed research grant</u> Polytechnic University of Marche - Faculty of Engineering, Ancona, Italy
a.y. 2016/2017 teaching support	<u>Adjunct professor for teaching support in “Architectural Survey”</u> Polytechnic University of Marche - Faculty of Engineering, Ancona, Italy
June 1, 2016 – May 31, 2017 research	<u>Research grant about “New methods of digital documentation of the archaeological Heritage in the DCE project, Cultural District Evolved Marche, for the use and enjoyment of the ancient consular Via Flaminia.”</u> Polytechnic University of Marche - Faculty of Engineering, Ancona, Italy
May 2016 museum	<u>Multimedia contents for Gença museum installations in the “3DEVE Tridimensional Digital Visual Experiences” project.</u> EVE- Enjoy Visual Experiences, Spin-off UNIVPM
a.y. 10-11, 11-12, 12-13, 13-14, 14-15, 15-16 assistance teaching	<u>Assistant teaching in History of Architecture and Architectural Surveying courses, Resp. Prof. Paolo Clini.</u> Polytechnic University of Marche - Faculty of Engineering, Ancona, Italy
February-March 2016 surveying	<u>Architectural survey of building damaged by earthquake in Cento (FE)</u> AhRTE s.r.l., Spin-off UNIVPM
November 2015 surveying, modelling, multimedia	<u>Collaboration “KNOWLEDGE PLAN OF POMPEII LARGE PROJECT ” for 3D model creation of Giulio Polibio’s domus, from laser scanning acquisition</u> AhRTE s.r.l., Spin-off UNIVPM
October - November 2011 surveying	<u>Architectural survey of buildings damaged by earthquake in L'Aquila City</u> Engineering studio Acale s.r.l, via Tommasi 28, Ancona
from 2004 to 2010 (4 contracts) tutoring	<u>Tutor to disabled students, Part-time collaboration (150 hours)</u> Service Learning - Section Student Activities, Polytechnic University of Marche

## PUBLICATIONS

- 39 Journal article  
Oral presentation  
(class A)  
CLINI P., **NESPECA R.**, ANGELONI R., MAMMOLI R. (2019).  
*The Integrated Survey of Narrow Spaces and Underground Architecture: the Case Study of Campana Caves Bas-Reliefs.*  
ISPRS-International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, 422, 277-282. DOI: 10.5194/isprs-archives-XLII-2-W9-277-2019
- 38 Conference proceeding  
Oral presentation  
QUATTRINI R., FRAPPICINI N., **NESPECA R.** (2018).  
*ARCHEOGate: un portale web per la catalogazione e la fruizione dell'archeologia delle Marche.*  
In proceeding of: XXXX International Congress of Representation Teachers. "Rappresentazione / Materiale / Immateriale - Drawing As (In)Tangible Representation", Milano 2018. Gangemi Editore. ISBN: 9788849236514
- 37 Essay on scientific volume  
**NESPECA R.** (2018).  
*Rilievo Geometrico*  
In: (a cura di): Francesco Monni, La Cappella Italiana dell'Assunzione della Vergine Maria/ Vlašská kaple Nanebevzetí Panny Marie. p. 45-64, ROMA: Aracne editor, ISBN: 978-88-255-1450-6
- 36 Essay on scientific volume  
CLINI P., FRAPICINI N., QUATTRINI R., **NESPECA R.** (2018).  
*Toccare l'arte e guardare con altri occhi. Una via digitale per la rinascita dei musei archeologici nell'epoca della riproducibilità dell'opera d'arte.*  
In: (a cura di): Alessandro Luigini e Chiara Panciroli, Ambienti digitali per l'educazione all'arte e al patrimonio. p. 97-113, MILANO: FrancoAngeli, ISBN: 9788891773333
- 35 Book  
**NESPECA R.** (2018)  
*Documentazione digitale del Cultural Heritage. Point cloud come sistema informativo.*  
Aracne Editor, ISBN 978-88-255-0980-9, p. 188
- 34 Journal article  
(class A)  
CLINI P., EL MEHTEDI M., **NESPECA R.**, RUGGERI L., RAFFAELLI E. (2017)  
*A digital reconstruction procedure from laser scanner survey to 3D printing: the theoretical model of the Arch of Trajan (Ancona).*  
In: SCIRES-IT-SCientific REsearch and Information Technology 7(2), 1-12. ISSN 2239-4303
- 33 Conference proceeding  
Oral presentation  
QUATTRINI R., **NESPECA R.**, RUGGERI L. (2017)  
*Digital photogrammetry for archaeological artefacts acquisition.*  
In proceeding of: IMEKO International Conference on Metrology for Archaeology and Cultural Heritage. Lecce, Italy, October 23-25, 2017
- 32 Conference proceeding  
Oral presentation  
MANCINI A., CLINI P., BOZZI C.A., MALINVERNI E.S., PIERDICCA R., **NESPECA R.** (2017)  
*Remote touch interaction with high quality models using an autostereoscopic 3D display.*  
In: De Paolis L., Bourdot P., Mongelli A. (eds) Augmented Reality, Virtual Reality, and Computer Graphics. AVR 2017. Lecture Notes in Computer Science, vol 10325. Springer, Cham. DOI [https://doi.org/10.1007/978-3-319-60928-7\\_40](https://doi.org/10.1007/978-3-319-60928-7_40)
- 31 Conference proceeding  
**NESPECA R.**, MAMMOLI R. (2017)  
*Integrated survey for digital documentation and monitoring of historic buildings: the case study of San Filippo Church in Cagli.*  
In proceeding of: ColloquiATe 2017, ArTec Italian Scientific society of architectural engineering, Ancona 2017.
- 30 Conference proceeding  
Oral presentation  
Best Paper Award  
CLINI P., **NESPECA R.**, CRINELLI G. (2017)  
*Il Distretto Culturale Evoluto Flaminia Nextone. Innovazione digitale nel nuovo museo virtuale della via Flaminia a Fano.*  
In proceeding of: XXXIX International Congress of Representation Teachers. "Territori e Frontiere della Rappresentazione", Napoli 2017. Gangemi Editore. ISBN: 9788849235074
- 29 Conference proceeding  
Oral presentation  
**NESPECA R.**, QUATTRINI R., MANCINI A. (2017)  
*Photogrammetric acquisition and 3D visualization of small sculptures. The Frasassi's Venus pilot case for archaeological museums.*  
In: 3D Modeling & Bim. Progettazione, Design e Proposte per la ricostruzione. Ebook. A cura di Tommaso Empler. Roma 2017. Tipografia del Genio Civile Editore.
- 28

27	Journal article Oral presentation <u>(class A)</u>	CLINI P., <b>NESPECA R.</b> , RUGGERI L. (2017) <i>Virtual in real. Interactive solutions for learning and communication in the National Archaeological Museum of Marche.</i> In: The International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, Volume XLII-5/W1, 2017. GEOMATICS & RESTORATION – Conservation of Cultural Heritage in the Digital Era, 22–24 May 2017, Florence, Italy
26	Essay on scientific volume  Ph.D. Thesis	<b>NESPECA R.</b> (2016) <i>Point cloud come sistema informativo. Il trattamento della nuvola di punti in un rilievo integrato finalizzato alla documentazione del Cultural Heritage</i> In: Linee di ricerca nell'area del Disegno 4. Contributi dalle tesi di dottorato A cura di: Laura Carlevaris. Ermes Editore. ISBN: 8869751481, p. 101-104.  <b>NESPECA R.</b> (2016) <i>Point cloud come sistema informativo. Il trattamento della nuvola di punti in un rilievo integrato finalizzato alla documentazione del Cultural Heritage.</i> <i>Point cloud as informative system. From integrated survey to digital documentation of Cultural Heritage.</i> Supervisor: Paolo Clini, Coordinator: Maurizio Brocchini Ph.D. School in Engineering Sciences, Cycle XIV, curriculum Civil, Building Engineering and Architecture (A.Y. 2012/15) <a href="http://hdl.handle.net/11566/242984">http://hdl.handle.net/11566/242984</a>
25	Conference proceeding	QUATTRINI R., <b>NESPECA R.</b> , PIERDICCA R., FORMATO A., PUGNALONI A. P. (2016) <i>Thirties &amp; 3D architecture. From Mario Ridolfi's project to new digital contents and Augmented Reality application for graphical analysis and knowledge.</i> <i>Architettura anni '30 in 3D. Dai progetti di Mario Ridolfi a nuovi contenuti digitali e applicazioni di realtà aumentata per l'analisi grafica e la conoscenza.</i> In proceeding of: XXXVIII International Congress of Representation Teachers. "The reasons of drawing", Firenze 2016. Gangemi Editore.
24	Journal article	QUATTRINI R., CLINI P., <b>NESPECA R.</b> , RUGGERI L. (2016) <i>Misura e Historical Information Building: sfide e opportunità nella rappresentazione di contenuti 3D semanticamente strutturati. Measurement and Historical Information Building: challenges and opportunities in the representation of semantically structured 3D content.</i> In: DISEGNARECON 9.16: 14-1. ISSN 1828-5961
23	Journal article Oral presentation <u>(class A)</u>	<b>NESPECA R.</b> , DE LUCA L. (2016) <i>Analysis, thematic maps and data mining from point cloud to ontology for software development.</i> In: ISPRS-International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, XLI-B5, p. 347-354, <a href="https://doi.org/10.5194/isprs-archives-XLI-B5-347-2016">https://doi.org/10.5194/isprs-archives-XLI-B5-347-2016</a> , 2016.
22	Journal article Oral presentation <u>(class A)</u>	CLINI P., FRAPICCINI N., MENGONI M., <b>NESPECA R.</b> , RUGGERI L. (2016) <i>Sfm technique and focus stacking for digital documentation of archaeological artifacts.</i> In: ISPRS-International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, XLI-B5, p. 229-236, <a href="https://doi.org/10.5194/isprs-archives-XLI-B5-229-2016">https://doi.org/10.5194/isprs-archives-XLI-B5-229-2016</a> , 2016.
21	Conference proceeding Poster section	CLINI P., <b>NESPECA R.</b> , BERNETTI A., GASPARINI M. (2016) <i>Sistemi UAV e integrazione con dati lidar per il rilievo archeologico. Il rilievo impossibile del complesso archeologico della Gola del Furlo.</i> In: Secondo Convegno Internazionale di Archeologia Aerea, Roma 2016
20	Essay on scientific volume	CLINI P., QUATTRINI R., FRONTONI E., PIERDICCA R., <b>NESPECA R.</b> (2016) <i>Real/not real: Pseudo-holography and Augmented Reality applications for Cultural Heritage.</i> In: HANDBOOK OF RESEARCH ON EMERGING TECHNOLOGIES FOR CULTURAL HERITAGE. Edited by: Michela Cigola, Alfonso Ippolito. Engineering Science Reference (an imprint of IGI Global) Editor.
19	Journal article	CLINI P., QUATTRINI R., AMADEI D., <b>NESPECA R.</b> (2015). <i>Geometrie ideali nell'architettura militare di Francesco di Giorgio Martini. Il caso del sistema difensivo Rocca-Torrione di Cagli. Ideal geometries in the military architecture of F. di Giorgio Martini. The defence system fortress-tower of Cagli</i> In: DISEGNARECON, vol 8(n 15), p. 3.1-3.12, ISSN 1828-5961
18		

17	Conference proceeding Oral presentation	CLINI P., QUATTRINI R., <b>NESPECA R.</b> , DE CAROLIS G., RUGGERI L. (2015) <i>Disegnare la città insegnando a rilevare, tecnologie integrate per un rilievo urbano 3d. Drawings of city as teaching method. Integrated techniques for urban 3D models.</i> In: DRAWING & CITY. Culture, Art, Science, Information. Edited by: Anna Marotta, Giuseppa Novello. Gangemi Editor; p. 523-530, ISBN: 978-88-492-3124-3
16	Conference proceeding Oral presentation	MONNI F., QUAGLIARINI E., LENCI S., CLINI P., <b>NESPECA R.</b> (2015) <i>Seismic improvement of historical dry masonry building using basalt fibre ropes: the case of Lossetti Tower in Beura-Cardezza (Italy).</i> In: REHAB2015. Proceeding of II the International Conference on Preservation, Maintenance and Rehabilitation of Historical Buildings and Structures. Edited by: Rogerio Amoeda, Sergio Lira e Cristina Pinheiro. Green Lines Institute for sustainable development Editor; p. 195-206, ISBN: 978-989-8734-10-5
15	Conference proceeding Oral presentation	PIERDICCA R., MALINVERNI E.S., TASSETTI A.N., MANCINI A., BOZZI C.A., CLINI P., <b>NESPECA R.</b> (2015) <i>Development of a GIS environment for archaeological multipurpose applications: the Fano historic centre.</i> In: HERITAGE and TECHNOLOGY Mind Knowledge Experience. Edited by: Carmine Gambardella. La Scuola di Pitagora srl Editor; p. 588-597, ISBN: 978-88-6542-416-2
14	Essay on scientific volume	CLINI P., QUATTRINI R., FRONTONI E., <b>NESPECA R.</b> (2015) <i>A New Cloud Library for Integrated Surveys: The Ancient Via Flaminia and the Nextone Project (Chapter 20)</i> In: HANDBOOK OF RESEARCH ON EMERGING DIGITAL TOOLS FOR ARCHITECTURAL SURVEYING, MODELING AND REPRESENTATION (2 Volumes). Edited by: Stefano Brusaporci. Engineering Science Reference (an imprint of IGI Global) Editor; p. 579-606, DOI: 10.4018/978-1-4666-8379-2
13	Journal article Oral presentation (class A)	QUATTRINI R., MALINVERNI E.S., CLINI P., <b>NESPECA R.</b> , ORLIETTI E. (2015) <i>From TLS to HBIM. High quality semantically aware 3D modeling of complex architecture.</i> In: ISPRS-International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, vol. XL-5/W4; p. 367-374, DOI:10.5194/isprsarchives-XL-5-W4-367-2015, 2015
12	Journal article	CLINI P., <b>NESPECA R.</b> (2014). <i>Tecniche laser scanning per il rilievo delle fortificazioni: il Torrione di Francesco di Giorgio Martini a Cagliari.</i> In: CASTELLA MARCHIAE; p. 210-222, ISSN: 2281-4558
11	Journal article	CLINI P., QUATTRINI R., <b>NESPECA R.</b> , SAGONE L. (2014). <i>Colore, riflettanza e temperatura. Dal caso studio di Villa Trissino a nuove applicazioni integrate di dati lidar terrestri per il rilievo e la diagnostica.</i> In: CULTURA E SCIENZE DEL COLORE / COLOR CULTURE AND SCIENCE, vol. 2 2014; p. 27-33, ISSN: 2384-9568
10	Conference proceeding	<b>NESPECA R.</b> , BERNETTI A., QUATTRINI R. (2014). <i>Laser scanner surveying for accurate planning using an innovative restoration technology. The dry-stone architecture of the Beura-Cardezza tower.</i> In: Italian survey & international experience. Edited by: Paolo Giandebiaggi e Chiara Vernizzi. At Rome, Italy: Gangemi Editor, p. 401-408, ISBN/ISSN: 978-88-492-2915-8
9	Conference proceeding	CLINI P., <b>NESPECA R.</b> , MAZZACCHERA A. (2014) <i>Laser scanner for historic churches restoration and conservation: Church of San Filippo in Cagliari</i> In: ESRARC 2014. At Florence, Italy: Nardini Editor, p. 105-108, ISBN/ISSN: 9788840443652
8	Journal article (class A)	QUATTRINI R., AMADEI D., BERNETTI A., <b>NESPECA R.</b> (2013). <i>La torre dei venti di Atene. Un rilievo in remoto per lo studio e la disseminazione di un orologio archeologico</i> In: SCIRES-IT_Scientific REsearch and Information Technology (2013), Vol 3, Issue 2, p. 69-86, e-ISSN 2239-4303, DOI 10.2423/i22394303v3n2p69, CASPUR-CIBER Publishing, <a href="http://caspur-ciberpublishing.it">http://caspur-ciberpublishing.it</a>
8	Journal article (class A)	CLINI P., <b>NESPECA R.</b> , BERNETTI A. (2013). <i>All-in-one laser scanning methods for surveying, representing and sharing information on archaeology. Via Flaminia and the Furlo tunnel complex</i>

In: ISPRS-International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences, XL-5/W2, p. 201-206, <https://doi.org/10.5194/isprsarchives-XL-5-W2-201-2013>, 2013.

7  
Conference proceeding  
Oral presentation  
CLINI P., QUATTRINI R., FIORI F., **NESPECA R.** (2013).  
*Integrated technologies for surveying artefacts damaged by earthquakes. Application of all-in-one lidar techniques in the city of L'Aquila*  
In: ISPRS-International Annals of the Photogrammetry, Remote Sensing and Spatial Information Sciences., II-5/W1, p. 79-84, <https://doi.org/10.5194/isprsannals-II-5-W1-79-2013>, 2013.

6  
Conference proceeding  
CLINI P., QUATTRINI R., **NESPECA R.** (2013).  
*Colore, geometria e riflettanza. Uso integrato dei dati Lidar per il rilievo e la diagnostica: il caso studio di Villa Trissino*  
In proceeding of: COLORE E COLORIMETRIA. CONTRIBUTI MULTIDISCIPLINARI, At Florence, Italy, Volume: VOL. IX A

5  
Conference proceeding  
Oral presentation  
CLINI P., FANGI G., **NESPECA R.**, BERNETTI A. (2013).  
*Conoscere e ricostruire dopo il sisma. Rilievo e documentazione tramite laser scanner del Monastero della Beata Antonia a L'Aquila*  
In: AID MONUMENTS. Conoscere, progettare, ricostruire. Conference proceeding (2013). At Rome, Italy: Aracne Editor, ISBN: 978-88-548-6506-8.

4  
Essay on scientific volume  
Oral presentation  
CLINI P., QUATTRINI R., **NESPECA R.** (2012).  
*Metodi integrati per un approccio monostrumentale lidar al rilievo dell'opera palladiana*  
In: PALLADIO LAB. Architetture Palladiane indagate con tecnologie digitali. p. 37-46, At Vicenza, Italy: International Study Centre of Andrea Palladio Architecture, ISBN: 978-88-8418-097-1

3  
Journal article  
CLINI P., QUATTRINI R., **NESPECA R.** (2012).  
*Virtual architecture in the free space*  
In: Eurographics 2012.EUROGRAPHICS TECHNICAL REPORT SERIES. ISSN: 1017-4656 DOI10.2312/conf/EG2012/posters/005-006

2  
Essay on scientific volume  
**NESPECA R.** (2011).  
*OLOd'ARC Tecniche di proiezione multimmagie per la comunicazione e la tutela dell'architettura*  
In: Documentare l'architettura storica. Analisi, rilievo e progetto. p. 208-217, At Rome, Italy: Aracne editor, ISBN: 978-88-548-4281-6

1  
Essay on scientific volume  
**NESPECA R.**, PIERDICCA A. (2010).  
*Museo a barre*  
In: AA.VV.. Architettura e città - NATURA/ARCHITETTURA. vol. 5, At Milan, Italy: Di Baio editor, ISBN: 978-88-7499-216-4

<b>BOOK</b>	<b>1</b>	<b>2018</b>
<b>JOURNAL ARTICLE (CLASS A)</b>	<b>8</b>	<b>2013-2019</b>
<b>JOURNAL ARTICLE</b>	<b>5</b>	<b>2012-2017</b>
<b>ESSAY ON SCIENTIFIC VOLUME</b>	<b>8</b>	<b>2010-2018</b>
<b>CONFERENCE PROCEEDING</b>	<b>16</b>	<b>2013-2018</b>
<b>Ph.D. Thesis</b>	<b>1</b>	<b>2016</b>
<b>totale</b>	<b>39</b>	<b>2010-2019</b>

## CONFERENCES, SEMINARS AND EXHIBITIONS

- December 20, 2018  
Management  
[Opening of restored frescoed ceiling at National Archaeological Museum of Marche MANaM UNIVPM, MIUR](#)
- September 13-15, 2018  
conference paper author  
and speaker  
[XXXVIII International Congress of Representation Teachers. "Rappresentazione / Materiale / Immateriale - Drawing As \(In\)Tangible Representation"](#)  
UID Unione Italiana Disegno – Milano, Italy
- December 1, 2017  
workshop speaker  
["Close range photogrammetry. Theory and application"](#)  
University of Pescara "Gabriele d'Annunzio", Department of Architecture
- September 14-16, 2017  
conference paper author and  
speaker, [award](#)  
[XXXIX International Congress of Representation Teachers. "Territories and frontiers of representation"](#)  
UID Unione Italiana Disegno – Napoli, Italy  
Best Paper Award
- July 18, 2017  
responsible of digital  
documentation and 3D models  
[Opening of Digital Library at National Archaeological Museum of Marche in "Percorsi didattici interattivi, multisensoriali e multiutenti attraverso tecnologie di Virtual Reality: il Museo Archeologico delle Marche" project](#)  
MANaM, UNIVPM, MIUR
- May 22-24, 2017  
conference paper author  
and speaker  
[International Conference "Geomatics and Restoration: Conservation of Cultural Heritage in the Digital Era"](#)  
AUTeC, SIRA, IGM – Firenze, Italy
- Avril 19-20, 2017  
conference paper author and  
speaker  
[Workshop "3D Modeling & BIM: Progettazione, Design e Proposte per la ricostruzione"](#)  
Sapienza University of Roma
- December 7, 2016  
responsible of digital media  
[Opening of "Museum of Via Flaminia" at Fano in "DCE Flaminia Nextone" project](#)  
Municipality of Fano, UNIVPM, DCE project
- September 15-17, 2016  
conference paper author  
[XXXVIII International Congress of Representation Teachers. "The reasons of drawing"](#)  
UID Unione Italiana Disegno – Firenze, Italy
- July 23, 2016  
seminar speaker  
["Smart archaeology and landscape. Esperienze in Italia" in "Cursos de Arqueología en el Ager Mellariensis"](#)  
University of Córdoba
- June 23-25, 2016  
technical committee  
[International conference "Landscape & Archaeology. Uniscape En Route international seminar in Flaminia"](#)  
CSV Association, UNIVPM, UNISCAPE, UNIURB, Flaminia Nextone
- November 25, 2015  
seminar speaker  
["Technologies for digital 3D documentation of cultural heritage"](#)  
University of Pescara "Gabriele d'Annunzio", Department of Architecture
- September 17-19, 2015  
conference paper author  
[XXXVII International Congress of Representation Teachers. "Drawing & City. Culture, Art, Science, Information."](#)  
UID Unione Italiana Disegno – Torino, Italy
- March - April 2015  
collaboration digital media  
[Exhibition "Architettura anni 30 3D. Mario Ridolfi, Pesaro e il Palazzo dell'economia corporative" at Pesaro](#)  
curated by Ramona Quattrini, Polytechnic University of Marche
- February 25-27, 2015  
conference paper author  
[6th International Workshop 3D-ARCH'2015 - 3D Virtual Reconstruction and Visualization of Complex Architectures](#)  
CIPA Heritage Documentation with ISPRS – Avila, Spain
- September 19-20, 2014  
conference paper author  
[XXXVI International Congress of Representation Teachers. "Italian Survey & International Experience"](#)  
UID Unione Italiana Disegno – Parma, Italy
- November 6-7, 2014  
conference paper author and  
[VII Italian Congress about geographic software and geographic data free - GFOSS Day 2014"](#)

speaker	GFOSS association – Ancona, Italy
June 9-11, 2014 Conference paper author and speaker	<u>6th European Symposium on Religious Art Restoration &amp; Conservation (ESRARC)</u> Institute for the Conservation and Valorization of Cultural Heritage (ICVBC-CNR)
May 9-11, 2014 tutor	<u>Laboratory “3D survey of historical centers – workshop of advanced systems” in the Master Course “Analysis, conservation and valorisation of the historical architecture”</u> Polytechnic University of Marche – Leica Geosystems srl
October 14, 2013 seminar speaker	“The laser scanner and photogrammetric survey: research experiences” at UNIVPM, Faculty of engineering, in the <i>Technic Design and Building Survey</i> course held by prof. Ramona Quattrini.
September 2-6, 2013 conference paper author and speaker	<u>XXIV International CIPA Symposium, Strasbourg</u> CIPA Heritage Documentation with ISPRS, INSA Strasbourg, SFPT
November - December 2012 collaboration digital media	<u>Exhibition “L’immagine del paesaggio archeologico della via Flaminia” at Fano</u> curated by Polytechnic University of Marche with Centro Studi Vitruviani Association
November 10 – 11, 2012 tutor	<u>Workshop PHOTOGRAMMETRY-LIDAR “Via Flaminia and the Furlo Tunnel Complex. Speditive method for survey, representation and communication of archaeology”</u> Polytechnic University of Marche - Centro Studi Vitruviani Association
July 6, 2012 conference paper author	<u>Workshop “PALLADIO LAB”</u> International Study Centre of Andrea Palladio Architecture
May 30, 2012 seminar speaker	“The laser scanner surveying technique for the architecture” at UNIVPM, Faculty of engineering, in the <i>Architectural Survey</i> course, Resp. Prof. Paolo Clini.
May 24-26, 2012 conference paper author and speaker	<u>“AID MONUMENTS. Conoscere, progettare, ricostruire.”</u> University of study of Perugia – Faculty of Engineering
October 7-8, 2011 cooperation to coordinate	<u>“Il giornata di studi vitruviani: Vitruvio, disegno e architettura fra l’antico e il Cinquecento.”</u> Centro Studi Vitruviani Association
June 1, 2011 seminar speaker	“Criteria and methods of architecture representation” at UNIVPM, Faculty of engineering, in the <i>History of Architecture</i> course Resp. Prof. Paolo Clini.
August 2009 seminar <u>award</u>	<u>XIX International Seminar and Award of Architecture and Urban Culture</u> University of Camerino <i>Winner of “projects and research” award with publication in Architettura e città n°5/2010, Di Baio editor</i>



## TRAINING EXPERIENCES

December 5, 2018 course	<u>"3D Reshaper software"</u> Leica Geosystems srl
May 3-4, 2017 course	<u>"Leica University Training"</u> Leica Geosystems srl
September 28-October 2, 2015 conference	<u>International Congress "Digital Heritage 2015"</u> Granada, Spain
October 4, 2014 seminar	<u>The UAV photogrammetric technique for land surveying</u> Engineers National Association of Fermo and Geoservice srl
February 20-21, 2014 conference	<u>UAV / RPAS in Italy - Platforms, regulations, applications, issues</u> Modena and Reggio Emilia University, Bruno Kessler Foundation, Udine University
October 24-26, 2013 conference	<u>XXXV International Congress of Representation Teachers. "Heritage World and Sites UNESCO. Memory, Measure and Harmony"</u> UID Unione Italiana Disegno – Matera, Italy
June 2013 competition	<u>Participation in European 12 "The Adaptable City. Inserting Urban Rhythms"</u> European Europa Organisation, www.european-europe.eu
December 13-15, 2012 conference	<u>XXXIV International Congress of Representation Teachers. "In Praise of Theory: the identity of representation and surveying disciplines "</u> UID Unione Italiana Disegno – Rome, Italy
March 30, 2012 conference	<u>"Design and construct buildings to nearly zero energy"</u> EdicomEdizioni - Monfalcone (GO)
February 2012 course	<u>Photography course</u> (10 theoretic lessons e 10 practical lessons, 40 hours) CRUA University Recreation Center of Ancona - ScattoFlessibile
December 1-2, 2011 course	<u>Laser Scanner Training "The laser scanning survey for architecture and city"</u> Microgeo srl - University of Venice IUAV
October 11-12, 2011 course	<u>"Basic Training on Laser Scanner Leica C10 and software Cyclone 7.2"</u> Leica Geosystems srl - Polytechnic University of Marche
September 18-22, 2011 workshop	<u>"International workshop: Waterlines in Trondheim"</u> Polytechnic University of Marche - Faculty of Engineering and NTNU Norwegian University of Science and Technology - Faculty of Architecture and Fine Art
May 18, 2011 course	<u>"The program People: how to write a success Marie Curie proposal"</u> (8 hours) UNIVPM with APRE (Agency of Promotion and European Research)
from 10/2010 to 02/2011 course	<u>Course of Videomaker</u> (16 lessons, 32 hours) Center of Applied Sciences and Arts, Nie Wiem, Municipality of Ancona
November 17, 2010 seminar	<u>Technical Update "Piano Casa Regione Marche"</u> EdicomEdizioni - Monfalcone (GO)
2008 course	<u>"Leadership and communication: how to be more effective in improving their communication and leadership"</u> (6 lessons, 24 hours) Polytechnic University of Marche
December 2007 course	<u>"Building Wooden: tradition and innovation for sustainable architecture"</u> Dardus, Polytechnic University of Marche
November 2006 - July 2007 seminar	<u>VILLARD 8 - International Architectural Traveling Seminar</u> Villard Association, Polytechnic University of Marche
May - October 2006 course	<u>European Computer Driving Licence (ECDL)</u> AICA, Italian Association for Informatics and Automatic Calculation

## PERSONAL SKILLS

MOTHER TONGUE	<u>ITALIAN</u>	
OTHER LANGUAGE	<u>ENGLISH</u>	<u>FRENCH</u>
<u>understanding</u>	basic	good
<u>speaking</u>	basic	good
<u>writing</u>	basic	good
ORGANISATIONAL / MANAGERIAL SKILLS	I am able to communicate clearly and accurately, to listen and to relate with others, in my native language. I constantly work in teams, often multidisciplinary, where I manage independently my work, working together and comparing skills and abilities. I am adaptable and I learn quickly.	
COMPUTER SKILLS	Excellent: CYCLONE LEICA, PHOTOSCAN, MESHLAB, CLOUDCOMPARE, PHOTOSHOP, CAMERA RAW, PREMIERE, TRIDMETRIX, PTGUI, PANO2VR, TOURWEAVER, AUTOCAD, OFFICE Good: GEOMAGIC, 3DRESHAPER, SCENE, LIGHTROOM, BRIDGE, SKETCH UP, INDESIGN, RECAP, REVIT Basic: MIC MAC, MATLAB, PRIMUS, ILLUSTRATOR, QUARKXPRESS, 3DS MAX, VRAY, SAP2000 <u>Good knowledge of the remote sensing systems, active and passive techniques, for architectural and archaeological surveying: acquisition phase, data processing and modeling. Basic knowledge of BIM softwares.</u>	
OTHER SKILLS	I have good manual skills that I exploit in hobbies and artistic activities. I won a scholarship ERSU from 2002 to 2007. I like literature, cinema and photography. Open Water Diver - Scuba Schools International Winner of the photography section in <i>National Literary Competition Passetto 2008</i> - Municipality of Ancona Driving license B	

## PORTFOLIO

### WORK AND RESEARCH

2018 SFM Photogrammetry, RPAS, Virtual tour, Video 360, laser scanning	<b>MUSST PROJECT: ARCHEOGATE</b> Research project for digital documentation of the archaeological site of Marche Scientific Coordinator: Paolo Clini
2017 Laser scanning	<b>A14 COLLAPSED BRIDGE</b> Research agreement for the survey by laser scanner of collapsed bridge in aimed at the analysis of the event. Scientific Coordinator: Paolo Clini
2017 Laser scanning, Virtual tour	<b>MOLE VANVITELLIANA IN ANCONA</b> Research agreement for the survey by laser scanner of Vanvitelli's Mole in Ancona aimed at the analysis and the digital reconstruction. Scientific Coordinator: Paolo Clini
2017 SFM Photogrammetry, RPAS, Virtual tour, Video 360, laser scanning	<b>DCE PROJECT</b> Research project for digital documentation of the archaeological site of Via Flaminia, the ancient Roman road. Scientific Coordinator: Paolo Clini
2016 Laser scanning	<b>ROMAN ANFITEATRO IN ANCONA</b> Research agreement for the survey by laser scanner of Roman Amphitheatre in Ancona aimed at the analysis and the digital reconstruction. Scientific Coordinator: Paolo Clini
2015 SFM Photogrammetry, museum exhibition	<b>FRASASSI'S VENUS IN THE MUSEUM OF GENGA</b> The Venus model (mesh & texture) exploitation and visualization for a new exhibition in the Museum of Genga. Main novelties in this installation are from the use of an autostereoscopic display. Scientific Coordinator: Paolo Clini
2015 Photogrammetry, RPAS, Laser scanning terrestrial and mobile	<b>INTEGRATED SURVEY FOR URBAN 3D MODEL OF CAGLI CITY</b> Research agreement for an integrated survey of Cagli city. Work is result of the laboratory "Techniques and advanced methods of architectural survey", in the Master's Degree "Analysis, conservation and enhancement of the historic architecture" Scientific Coordinator: Paolo Clini
2015 Data mining	<b>STAGE at LAB MAP-CNRS A MARSIGLIA</b> Stage conducted from May to July 2015 at the laboratory MAP (UMR 3495 CNRS/MCC) Modèles et simulations pour l'Architecture et le Patrimoine - Ecole Nationale Supérieur d'Architecture of Marseille, entitled "Analysis, cartography and information extraction from point cloud to ontology for software development" Stage supervisor: Livio De Luca PhD supervisor: Paolo Clini
2015 Laser scanning	<b>CHAPEL OF THE ITALIANS IN PRAGUE</b> Research agreement for the survey by laser scanner of the Chapel of St. Charles Borromeo (known as "of the Italians") in Prague aimed at the restoration and the conservative rehabilitation. Scientific Coordinator: Enrico Quagliarini, Paolo Clini
2015 Laser scanning	<b>THEATRE OF FRANCESCO DI GIORGIO MARTINI IN SAN CONSTANZO TOWN</b> Didactic exercise aimed at laser scanning survey.
2015 Laser scanning, SFM Photogrammetry	<b>SANTA CASA OF LORETO</b> Laser scanning and photogrammetric survey of the Santa Casa of Loreto, designed by Donato Bramante, for the Bramante Celebrations in 2014 in the 500 years since the death of the architect.
2015 Laser scanning, infrared thermography	<b>POINT CLOUD, REFLECTIVITY AND THERMOGRAPHY</b> Research work aimed to use of reflectivity maps for diagnostic. Experimental test to identify a correlation between the temperature change and reflectivity change in wet conditions.
2015 SFM Photogrammetry	<b>CHAMBER OF COMMERCE AT PESARO</b> Research agreement for image-based survey of the panels in the Chamber of Commerce Palace at Pesaro, for an exhibition dedicated to the Italian architect Mario

Ridolfi.  
Scientific Coordinator: Ramona Quattrini

2015	ARCHEOFANO PROJECT
Laser scanning, SFM Photogrammetry, virtual tour	Research agreement for upgrading, redefinition and consolidation of the archaeological GIS of the Fano city. Surveys aimed at identifying potential ruins of the Vitruvius Basilica or other public buildings of the forum. Scientific Coordinator: Paolo Clini
2014	LOSSETTI TOWER AT CARDEZZA
Laser scanning	Research agreement with the Municipality of Beura-Cardezza for the laser scanner survey of the Cardezza tower called Lossetti for structural upgrading. Scientific Coordinator: Enrico Quagliarini, Paolo Clini
2014	SAN FILIPPO CHURCH AT CAGLI
Laser scanning	Research work aimed at laser scanning survey. 2D drawing and 3D model for diagnostic and restoration.
2014	GPR FURLO CHURCH
Ground Penetrating Radar	Research agreement with the State Natural Reserve "Gola del Furlo" for analysis, surveys and studies of the area and its landscape, historical and archaeological values. Activities aimed at its preservation and enhancement. Scientific Coordinator: Paolo Clini
2014	RPAS FURLO TUNNEL COMPLEX
SFM Photogrammetry with RPAS	Research agreement with the State Natural Reserve "Gola del Furlo" for analysis, surveys and studies of the area and its landscape, historical and archaeological values. Activities aimed at its preservation and enhancement. Scientific Coordinator: Paolo Clini
2014	CITTÀ IDEALE PAINTING
Laser scanning, structured light scanner	Research work aimed at the morphometric survey of the painting-panel unit and the Sala degli Angeli. Multi-instrument surveying: structured light scanning, laser scanning ToF and photographic acquisition LHR.
2014	BELL TOWER OF VANVITELLI AT LORETO
Laser scanning	Didactic exercise aimed at laser scanning survey.
2014	FURLO TUNNEL COMPLEX
Laser scanning	Research agreement with the State Natural Reserve "Gola del Furlo" for analysis, surveys and studies of the area and its landscape, historical and archaeological values. Activities aimed at its preservation and enhancement. Scientific Coordinator: Paolo Clini
2014	TOWER OF FRANCESCO DI GIORGIO MARTINI
Laser scanning	Research work aimed at laser scanning survey. 2D drawing and 3D model for the morphometric analysis.
2013	PALLADIO LIBRARY
Laser scanning, topography, spherical photogrammetry	Research agreement with the International Study Centre of Andrea Palladio Architecture aimed at 3D modelling of Andrea Palladio architecture (Arcus spa founding). Scientific Coordinator: Paolo Clini
2013	REINFORCED CONCRETE BRIDGE (AP)
Laser scanning	Research agreement aimed at laser scanning survey of a reinforced concrete bridge for structural upgrading. Scientific Coordinator: Paolo Clini
2012	MONASTERY OF BLESSED ANTONIA (AQ)
Laser scanning, spherical photogrammetry	Research agreement aimed at laser scanning survey of an earthquake stricken monastery in the historic center of L'Aquila. Scientific Coordinator: Paolo Clini
2012	ANTENUCCI CITY BLOCK (AQ)
Laser scanning, topography, spherical photogrammetry	Research agreement aimed at laser scanning survey of an earthquake stricken city block in the historic center of L'Aquila. Scientific Coordinator: Paolo Clini

## THESIS TUTOR

assistant supervisor 2018	<u>Marianna Pistolesi e Marica Calvaresi</u> (HBIM sul cortile di Palazzo Ducale di Urbino) Supervisor: Ramona Quattrini Assistant supervisor: Romina Nespeca
assistant supervisor 2018	<u>Alessandro Nardi</u> L'importanza del rilievo architettonico di edifici antichi da convertire in spazi per l'ascolto della musica. The importance of architectural survey of old buildings to be converted into spots where listening to music. Supervisor: Cesini Gianni Assistant supervisor: Serpilli Fabio, Romina Nespeca
assistant supervisor 2017	<u>Fides Carosi</u> Modellazione parametrica per la comunicazione di beni architettonici e museali - il caso di Palazzo Ferretti ad Ancona. <i>Parametric modeling for communication of architectural and museal assets - the case of Palace Ferretti in Ancona.</i> Supervisor: Ramona Quattrini Assistant supervisor: Romina Nespeca
Tutor 2016	<u>Ilaria Falappa</u> La cucitura flessibile di murature in pietra a secco: dal rilievo laser scanner all'ottimizzazione del layout. <i>Flexible stitchings of historic dry-stone walls: from laser scanner survey to layout optimization.</i> Supervisor: Enrico Quagliarini Assistant supervisor: Paolo Clini, Fabrizio Marinelli
assistant supervisor 2016	<u>Claudia Brocchi</u> Dall'archeologia virtuale alla ricostruzione di un modello tridimensionale fruibile tramite realtà aumentata. Caso studio dell'arco di Augusto di Fano. <i>From virtual archaeology to the reconstruction of 3D model usable with augmented reality. Case study Arch of Augustus in Fano.</i> Supervisor: Paolo Clini Assistant supervisor: Emanuele Frontoni, Romina Nespeca
assistant supervisor 2016	<u>Benedetta Lozzi</u> La valorizzazione del teatro romano di Ancona. Rilievo e documentazione. <i>The valorisation of the roman amphitheatre of Ancona. Survey and documentation.</i> Supervisor: Paolo Clini Assistant supervisor: Romina Nespeca
assistant supervisor 2016	<u>Luca Domenella</u> La valorizzazione del teatro romano di Ancona. Ricostruzione e fruizione. <i>The valorisation of the roman amphitheatre of Ancona. Reconstruction and fruition.</i> Supervisor: Paolo Clini Assistant supervisor: Romina Nespeca
assistant supervisor 2015	<u>Ludovico Ruggeri</u> Metodiche innovative basate su SfM per il rilievo e la documentazione del patrimonio archeologico. <i>Innovative techniques based on SfM for the survey and the communication of archaeological heritage.</i> Supervisor: Paolo Clini Assistant supervisor: Adriano Mancini, Romina Nespeca
Tutor 2015	<u>Mirko Ripanti</u> Nuove metodologie per la valutazione dello stato di conservazione e rischio degli edifici dal rilievo laser 3D: Santa Maria di Portonovo di Ancona. <i>New methodologies for the valuation of the state of conservation and risk of buildings from 3d laser scanning: Santa Maria in Portonovo, Ancona</i> Supervisor: Paolo Clini Assistant supervisor: Enrico Quagliarini
assistant supervisor 2014	<u>Giacomo Sufferini</u> Teatri storici delle Marche. Rilievo e conoscenza infografica per un sistema informativo di tutela e comunicazione Supervisor: Paolo Clini Assistant supervisor: Romina Nespeca

Tutor Valeria Cudini, Letizia Montecchiarini  
2014 Approccio innovativo di tipo monostrumentale laser scanner allo studio della chiesa di san filippo in cagli - Rilievo architettonico e rilievo critico.  
Supervisor: Paolo Clini  
Assistant supervisor: Stefano Lenci, Enrico Quagliarini

Tutor Maria Elena Marani  
2014 Approccio monostrumentale Lidar al Rilievo e diagnostica dell'Architettura:  
integrazione tra scansioni laser e indagini termografiche.  
Supervisor: Paolo Clini  
Assistant supervisor: Marco D'Orazio

## RESEARCH PROJECTS

CIVITAS project	University strategic project that aims to digitize Palazzo Ducale di Urbino (CH1), manage 3D / 4D data through semantic models (CH2), improve the visitor experience (CH3), develop a multisensory and interactive fruition (CH4), create a business model based on Digital Heritage for Culture, Research and Tourism (CH5). Role: attendance
P2ENDURE project	"Information Modeling Requirements for Building Energy Analysis" The aim of the project is the development of optimization systems for parametric modeling (BIM) for the energy analysis of the building. Role: attendance
MUSST project	The project ARCHEOGate, webpage of Marche Archaeological System, is framed by the Museums and development of territorial systems program (MuSST): by way of this financing the Directorate-General for Museums intends to support regional museum networks in the promotion of territorial networks, in participatory dissemination and in the creation of integrated cultural paths. Role: operational manager development and coordination of digital contents
MIUR project	"Educational projects in museums, in archaeological, historical and cultural sites or in cultural and scientific institutions" in the funded project "Interactive, multisensory and multi-user educational paths through Virtual Reality technologies: the Marche Archaeological Museum". Role: operational manager development and coordination of digital contents
DCE project	Distretto Culturale Evoluto Flaminia NextOne is a competitive project funded by the Marche Region for the enhancement and use of the archaeological landscape of the Via Flaminia through innovative documentation and use technologies. Role: operational manager development and coordination of digital contents
GRANDE PROGETTO POMPEI	Project funded by the European Commission with Community Funds based on resources from the Interregional Operational Program "Cultural, Natural and Tourism Attractors" ERDF 2007-2003 (IOP). The Polytechnic University of Marche has dealt with Lot 3 Regio III - IV - V - IX. Role: development and coordination of the 3D model of improvement
ARCHEOFANO project	Documentation and integrated survey project (laser and georadar) of the archaeological heritage of the urban center of the Roman city of Fanum Fortunae; Research project financed by the Province of Pesaro. Role: manager of development and coordination of laser scanning
DUCALE DIGITALE project	Project aimed at the development of new technologies for the acquisition and use in virtual reality and AR of the historical and artistic heritage of the National Gallery of the Marche of Urbino. Role: attendance
PALLADIO project	Campaign of digital documentation of the villas and bridges of Andrea Palladio within the project funded Arcus - International Center of Architectural Studies Andrea Palladio, for the realization of the project called "Palladio Library - media library and information-communication system on Andrea Palladio, his works, and his territory", aimed at the preparation of the Palladio Museum at Palazzo Barbaran from Porto to Vicenza. Role: attendance
DISTORI	The research team Distori Heritage of the Polytechnic University of Marche avails itself of the most modern and innovative digital technologies applied to archaeology, historical architecture and mobile cultural heritage, aimed at the survey for knowledge and restoration, and the experimentation of modalities of use in AR of Cultural Heritage in the context of virtual systems of musealization. Role: membership

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