

Part A. PERSONAL INFORMATION		CV date		3/10/2021
First and Family name	Miguel Ángel Maté González			
Social Security, Passport, ID number	-	Age	34	
Researcher codes	WoS Researcher ID	I-4466-2017		
	SCOPUS Author ID	56780291300		
	Open Researcher and Contributor ID (ORCID)	0000-0001-5721-346X		

A.1. Current position

Name of University/Institution	Universidad Politécnica de Madrid		
Department	Ingeniería Topográfica y Cartografía		
Address and Country	Campus Sur, A-3, Km 7, 28031 Madrid		
Phone number	-	E-mail	miguelangel.mate@upm.es
Current position	Profesor Ayudante Doctor - PDI	From	01/09/2020
Key words	Geotechnologies, Photogrammetry, Computational Vision, Laser, Metrology, LiDAR		

A.2. Education

Title	University	Year
Doctor in Geotechnologies applied to the Construction, Energy and Industry	Universidad de Salamanca	2017
Masters in Secondary Education	Universidad Camilo José Cela	2017
Masters in Cartographic Geotechnologies in Engineering and Architecture	Universidad de Salamanca	2013
Degree in Technical engineering in topography	Universidad de Salamanca	2012
Senior Technician in Development of Urban Projects and Operations Topographical	I.E.S. Virgen de la Paloma	2008

A.3. JCR articles, h Index, thesis supervised...

H Index: **17** | I-10 index: **21** – Citations: **742** - > **SCOPUS**

Total Publications: **42**; JCR Publications: **40 (10 as first author)**; First Quartile (Q1): **13 (6 as first author)**; Editor Special Issue: **4**; Book chapter: **3**; Works in International Congresses: **10**
 Principal Research Projects: **2**; Collaborator researcher European or international / National / Regional Projects: **3 / 6 / 3**; Patents: **1**; Awards: **4 (1 Personal Award and 3 Group Award)**
 Months of pre-doctoral stays: **2 years - 4 months (28 months)**
 Months of post-doctoral stays: **1 year - 7 month (19 months = 10 national + 9 international)**
Promotion of Young Employment and Implementation of the Youth Guarantee in R&D contract of the Ministry of Economy and Competitiveness - PEJ-2014-P-00412
European Union post-doctoral scholarship actions: Marie Skłodowska-Curie Individual Fellowships, H2020-MSCA-IF-2019 (Grant agreement ID: 894785; Application of Virtual Anastylis Techniques for Architectural Research - AVATAR)

Part B. CV SUMMARY (max. 3500 characters, including spaces)

M.Á.M.-G. is an **Eng. in topography** (2012) and has a **MsC in Cartographic Geotechnologies in Engineering and Architecture** (2013), a **MsC in Secondary Education** and a **PhD in Geotechnologies applied to Construction, Energy and Industry** (2017). The applicant's doctoral Thesis titled "Implications of photogrammetry and laser techniques in the identification and characterization of anthropic traces on bone remains in Pleistocene archaeological sites", was awarded with the **Extraordinary Award** by the Universidad de Salamanca.

Technical and scientific contributions: During pre-doctoral formation, the applicant was awarded with a **Promotion of Young Employment and Implementation of the Youth Guarantee in R&D** of the Ministry of Economy and Competitiveness - PEJ-2014-P-00412. As member of the **GESyP** (Universidad Politécnica de Madrid) and **TIDOP** (Universidad de Salamanca) **Research Groups**, he is **co-author of 42 scientific publications, 38 of which are indexed in the JCR impact list for International journals (being corresponding author of 10 of them), 13 belonging to the first quartile.** The applicant is also author of **three book**



chapters and has a **H index of 17** and **i-10 of 21**. On top of the above, the he has developed a **software patent derived from an European Project** and has **participated in International Conferences (10), workshops, courses in the scientific week**. Additionally, the candidate has collaborated in the organization of scientific activities, being part of the organization committee of the **International Symposium CIPA Ávila**, reviewing projects and manuscripts as well as being **Editor 4 of a Special Issue of different JCR international journals** (among other merits). As part of his **educational formation**, the applicant was **assistant professor** in the Archaeology Degree in Universidad Complutense de Madrid, contributing in the technical formation for cultural heritage documentation and conservation topics.

Mobility: As for **International Activity**, the applicant has participated in **3 International projects** (in addition to 6 National and 3 Regional projects) and has carried out relevant international and national collaborations forming part of both **predoctoral and postdoctoral placements**. The results of these mobility programmes have included the publication of **20 JCR papers** and the development of a **patent**. In addition, he has obtained and executed for 6 months (04/2021-09/2021) a **Marie Skłodowska-Curie Individual Fellowships, H2020-MSCA-IF-2019 (Grant agreement ID: 894785)**, in the **Politecnico di Torino**.

Leadership: the candidate has worked for two and a half years at the Escuela Politécnica Superior de Ávila, Universidad de Salamanca, and has been in charge of projects in the field of Cultural Heritage, in the TIDOP Research Group (<http://tidop.usales>). In these projects, the applicant deals with the 3D documentation of Cultural Heritage assets applying knowledge in advanced geomatics for the **generation of descriptive models, generation of Heritage Building Information modelling (HBIM), connection of databases with the predictive model HBIM (Computer Vision - Machine Learning / Deep Learning), and others**. In this period, the applicant has also improved his formation through **13 months of post-doctoral stays in relevant International and National Institutions**. Regarding this field of research, is the **Principal Research (PR) of two projects and member of 12 more projects**. Currently, he continues developing these lines of research with his new university colleagues in the **GESyP Research Group**. The investigator has worked in different research institutions since 2013, collaborating with researchers from all the world.

At present, he is professor with the figure of **Profesor Ayudante Doctor at the Universidad Politécnica de Madrid (09/2020-03/2021 and 10/2021-currently)**. During this period, thanks to an unpaid period at the Universidad Politecnica de Madrid, has been able to work for 6 months (04/2021-09/2021) in a **Marie Skłodowska-Curie Individual Fellowships, H2020-MSCA-IF-2019 (Grant agreement ID: 894785)**, in the **Politecnico di Torino**.

Part C. RELEVANT MERITS

C.1. Publications (including only the most relevant: Q1 and Q1-first decile) To see the rest of JCR publications (<https://www.scopus.com/authid/detail.uri?authorId=56780291300>) (10/40)

(1/5) **Maté-González et al., 2015**. Micro-photogrammetric characterization of cut marks on bones. *Journal of Archaeological Science*, 62, 128-142. JCR: 11/84 – Anthropology – **Q1 (JCR)**

(1/4) **Maté-González et al., 2017**. Statistical comparison between low-cost methods for 3D characterization of cut-marks on bones. *Remote Sensing*, 9(9), 873. JCR: 7/30 - Remote Sensing - **Q1 (JCR)**

(1/12) **Maté-González et al., 2019**. On the Combination of Remote Sensing and Geophysical Methods for the Digitalization of the San Lázaro Middle Paleolithic Rock Shelter (Segovia, Central Iberia, Spain). *Remote Sensing*, 11(17), 2035. JCR: 7/30 - Remote Sensing - **Q1 (JCR)**

(1/7) **Maté-González et al., 2017**. Assessment of statistical agreement of three techniques for the study of cut marks: 3D digital microscope, laser scanning confocal microscopy and micro-photogrammetry. *Journal of microscopy*, 267(3), 356-370. SJR: 2-10 - Microscopy – **Q1 (JCR)**

(2/8) Aramendi et al., 2017. Discerning carnivore agency through the three-dimensional study of tooth pits: Revisiting crocodile feeding behaviour at FLK-Zinj and FLK NN3 (Olduvai Gorge, Tanzania). *Palaeogeography, Palaeoclimatology, Palaeoecology*, 488, 93-102. JCR: 5/54 - Palaeontology – **Q1 – First decile (FD) (JCR)**

(3/5) Esteve et al., 2018. A new high-resolution 3-D quantitative method for analysing small morphological features: an example using a Cambrian trilobite. *Scientific reports*, 8(1), 2868. – **Q1 (JCR)**



(2/5) Yravedra et al., 2019. The use of canid tooth marks on bone for the identification of livestock predation. Scientific Reports, 9:16301(1). JCR: 15/69 - Multidisciplinary sciences – **Q1 (JCR)**

(3/6) Mora et al., 2021. An historical building information modelling approach for the preventive conservation of historical constructions: Application to the Historical Library of Salamanca. Automation in Construction. JCR: 2/64 - Construction – **Q1 (JCR)**

(1/12) **Maté-González et al., 2021.** Towards a Combined Use of Geophysics and Remote Sensing Techniques for the Characterization of a Singular Building:“El Torreón”(the Tower) at Ulaca Oppidum (Solosancho, Ávila, Spain). Sensors, 21(9), 2934. – **Q1 (JCR)**

(4/6) Sánchez-Aparicio et al., 2021. Integration of a Wearable Mobile Mapping Solution and Advance Numerical Simulations for the Structural Analysis of Historical Constructions: A Case of Study in San Pedro Church (Palencia, Spain). Remote Sensing, 13(7), 1252. – **Q1 (JCR)**

C.2. Research projects and grants

- As Principal research (PR):

Project name: **Application of Virtual Anastylis Techniques for Architectural Research - AVATAR.** Entity where project took place: **Politecnico di Torino.** Financing entity: **European Union post-doctoral scholarship actions: Marie Skłodowska-Curie Individual Fellowships, H2020-MSCA-IF-2019 (Grant agreement ID: 894785;)** Name PR: **Miguel Ángel Maté González.** Start-End date: 04/2021 – 09/2021. <http://avatar.polito.it/>

Project name: **Ulaca virtual tour.** Entity where project took place: Universidad de Salamanca. Financing entity: **Gran Duque de Alba Institution. Diputación de Ávila. (4.000e).** Name PR: **Miguel Ángel Maté González.** Start-End date: 01/2020 – 12/2020.

- As research member: (including only the most relevant)

Project name: **HeritageCARE.** Entity where project took place: Universidade do Minho, Direção Regional de Cultura do Norte, Universidad de Salamanca, Associação CCG/ZGDV – Centro de Computação Gráfica, Instituto Andaluz del Patrimonio Histórico, Fundación Santa María la Real del Patrimonio Histórico, Université Blaise Pascal, Universite de Limoges. Financing entity: **EU – INTERREG V-B- SUDOE H2020 (<http://heritagecare.eu/>).** Name PR: **Luís F. Ramos.** Start-End date: 09/2016 - 08/2019

Project name: **Cultural Heritage Through Time (CHT2).** Entity where project took place: Politecnico di Milano (POLIMI), Universidad de Salamanca (USAL), Newcastle University (NCL). Financing entity: **EU - JPI CULTURAL HERITAGE PLUS H2020 (<http://cht2-project.eu/>).** Name PR: **Gabriele Guidi.** Start-End date: 09/2015 - 02/2018

Project name: **The first humans and their evolution from the Olduvayense to the Acheulean: a Paleoanthropological Project in the Olduvai Gorge (Tanzania).** Entity where project took place: Universidad Complutense de Madrid (UCM). Financing entity: **Ministry of Economy and Competitiveness. National Plan I+D+I: HAR2013-45246-C3-1-P.** Name PR: **Enrique Baquedano and Manuel Domínguez.** Start-End date: 05/2013 – 12/2017

C.3. Contracts

Employing entity: **Universidad Politécnica de Madrid, Faculty: Escuela Técnica Superior de Ingenieros en Topografía, Geodesia y Cartografía, Department: Dpto. de Ingeniería Topográfica y Cartografía, Professional category: Profesor Ayudante Doctor.** Start-End date: (09/2020-03/2021 and 10/2021-currently)

Employing entity: **Politecnico di Torino, Faculty: Politecnico di Torino, Department: Dipartimento di Ingegneria dell'Ambiente, del Territorio e delle Infrastrutture, Professional category: Marie Skłodowska-Curie Individual Fellowships – Post-doctoral Contract.** Start-End date: **(04/2021-09/2021),** duration: 6 months

Employing entity: **Universidad de Salamanca, Faculty: Escuela Politécnica Superior de Ávila, Department: Dpto. De Ingeniería Cartográfica y del Terreno. Professional category: Teaching and Research Staff (PDI) – Post-doctoral Contract.** Start-End date: 02/2018 – 08/2020, duration: 2 years and 6 months

Employing entity: **Universidad Complutense de Madrid (UCM), Faculty: Geografía e Historia, Department: Dpto. de Prehistoria, CAI de Arqueometría, Professional category: Promotion of Young Employment and Implementation of the Youth Guarantee in R&D contract of the Ministry of Economy and Competitiveness - PEJ-2014-P-00412.** Start-End date: 12/2015 - 11/2017, duration: 2 years



C.4. Patents

Title registered industrial property: **4DVision** - N^o of application: **SA-207-18** - Patent of invention. Companies, which benefit from this software: ITOS3D Engineering. Patent developed from the project: **Cultural Heritage Through Time (CHT2)** (<http://cht2-project.eu/>)

C.5. Awards

Description: **Extraordinary Doctorate Award (Personal Award)**. Awarding entity: Universidad de Salamanca, 21/12/2018

Description: **Innovadores Award for the best project: (i) REVELADERO – 2018; (ii) CRASHMAP – 2017; (iii) SICEMAN – 2015. (Group Award)**. Awarding entity: El Mundo

C.6. Stays in public or private R&D centres

- Pre-doctoral (28 months)

Entity: **Universidad Complutense de Madrid**. By the teacher: Jesús Álvarez Sanchis. Start-End date: 01/10/2013 - 25/11/2015. Duration: **2 years - 4 months**

- Post-doctoral (19 months → 10 national + 9 international)

Entity: **Universidad Complutense de Madrid**. By the teacher: José Yravedra. Start-End date: 01/01/2018 - 31/03/2018. Duration: **3 months**

Entity: **Universidad Complutense de Madrid**. By the teacher: David Álvarez Alonso. Start-End date: 01/06/2018 - 31/07/2018. Duration: **2 months**

Entity: **Museo Arqueológico Regional de la Comunidad de Madrid**. By the research: Enrique Baquedano. Start-End date: 01/08/2018 - 31/09/2018. Duration: **2 months**

Entity: **Universidad Complutense de Madrid**. By the teacher: José Yravedra. Start-End date: 01/03/2019 - 31/05/2019. Duration: **3 months**

Entity: **Università di Salerno**. By the research: Salvatore Barba. Start-End date: 01/07/2019 - 31/09/2019. Duration: **3 months - INTERNATIONAL STAY**

Entity: **Politecnico di Torino**. Start-End date: 01/04/2021 - 31/09/2021. Duration: **6 months - INTERNATIONAL STAY**

C.6. Works submitted to national or international conferences (the most relevant 2/10)

(3/7) Sánchez-Aparicio et al., 2019. A comparative study between wms and tIs for the stability analysis of the San Pedro church barrel vault by means of the finite element method. "27th International CIPA symposium"

(1/5) **Maté-González et al. 2016**. Implementation of photogrammetry to the three-dimensional reconstruction of cut marks: an alternative to the Scanning Electron Microscopy. "6th Annual Meeting of the European Society for the study of Human Evolution". European Society for the study of Human Evolution, ISSN 2195-0784.

C.7. Other achievements

- Member of different research groups: GESyP Research Group (Universidad Politécnica de Madrid); TIDOP Research Group (Universidad de Salamanca); CAI Archeometry (Universidad Complutense de Madrid); Gran Duque de Alba Institution (Public Research Group - Member of scientific board)
- Organization of R&D activities: Courses in the scientific week (2016/2017/2018), international workshops, Organizing Committee of the International Symposium CIPA Ávila 2019 (<https://www.cipa2019.org/committee/>), European Researchers' Night 2021
- Evaluation and revision of R&D projects and articles: **MDPI (24)**: Remote Sensing (8), Sensors (5), Applied Sciences (1), Journal of Imaging (1); **ISPRS (3)**: ISPRS International Journal of Geo-information (3); **ELSEVIER (4)**: Quaternary International (3), Digital Applications in Archaeology and Cultural Heritage (1); **SPRINGER (1)**: Archaeological and Anthropological Sciences (1); **WILEY (RMS) (1)**: Journal of Microscopy (1)
- Special Issue editor: **Quaternary International** (ISSN: 1040-6182).. **ELSEVIER. Drones** (ISSN 2504-446X). **MDPI AG. Sustainability** (ISSN 2071-1050). **MDPI AG. Applied Sciences** (ISSN 2076-3417). **MDPI AG.**
- Realization of different courses in specialised fields and participation in teaching innovation activities