## Part A. Personal Information

| DATE | 2020-12-10 |
|---|---|

| | | |
|---|---|---|
| Surname(s) | López Díaz | |
| Forename | Ana Jesús | |
| Social Security, Passport, ID number | 33263837H | |
| Sex | F | |
| Age | 55 | |
| Researcher codes | WoS Researcher ID *(*)* | G-9988-2013 |
| | SCOPUS Author ID*(*)* | 55697914500 |
| | Open Researcher and Contributor ID (ORCID) | 0000-0003-2291-8499 |

*(*) At least one of these is mandatory*

### A.1. Current position

| | | |
|---|---|---|
| Post/ Professional Category | Tenured Professor (Profesora Titular de Universidad) | |
| UNESCO Code | 2209.90, 220915, 2209.24, 220910, 220914, 330707, 331314 | |
| Key Words | Optical techniques; adaptive optics; photonic technologies; non-invasive techniques; hyperspectral cameras; high resolution imaging, Illumination; cultural heritage. | |
| Name of the University/Institution | Universidade da Coruña | |
| | Department/Centre | Naval and Industrial Engineering |
| | Full Address | Escola Politécnica Superior<br>Campus Universitario<br>15403 Ferrol (SPAIN) |
| | Email Address | ana.xesus.lopez@udc.es |
| | Phone Number | (34) 881 01 3250 |
| Start date | 2017/09/20 | |

### A.2. Education *(title, institution, date)*

| *Year* | *University* | *Degree* | *Title* |
|---|---|---|---|
| *88* | *Santiago de Compostela* | *First degree* | *Bachelor of Physical Sciences* |
| | | *Masters (if appropriate)* | |
| *95* | *Santiago de Compostela* | *PhD* | *Physical Sciences* |

### A.3. INDICATORS OF QUALITY IN SCIENTIFIC PRODUCTION *(See the instructions)*

Recognition for 24 years of international-quality research (4 sexenios). Last recognized: 17/07/2020.
PhD theses defended in the last 10 years: 3
JCR articles: 47
In the first quartile (Q1): 25
Total number of publications (JCR, other national and international journals, books and book chapters): 83
Total number of citations: 842
Average number of annual citations (last 5 years): 81
Average citations per publication: 12
H-index: 15

**Part B. Free Summary of CV** *(Max. of 3.500 characters, including spaces)*

I am tenured professor in the department of Naval and Industrial Engineering at the University of A Coruña (UDC). Since 1996 I am a member of the Laser Industrial Application Laboratory (LAIL) at Escola Politécnica Superior. Within this research group I have worked for the last ten years in the transfer of photonic technologies to industry and heritage conservation field, publishing more than 60 papers in journals and proceedings regarding LIBS spectroscopy and laser ablation for cleaning and functionalization of different material surfaces. Scientific papers on laser cleaning in igneous rocks, mainly granites, has experienced significant growth since 2011 that must be largely attributed to the results obtained by her group that resulted the 70% of the scientific papers in the JCR database, indexed with the keywords laser, granite and cleaning. The need for in situ control and monitoring of the processes of formation, or depletion, of the patina on stone substrate have led to the implementation of optical, non-invasive techniques based on RGB and/or hyperspectral images in combination with artificial intelligence methods. The group has been a pioneer in the use of hyperspectral cameras in the monitoring of laser cleaning processes together with the integration of artificial vision systems for the laser processing of ·d surfaces. The group has also worked on the use of holographic interferometry and speckle within the field of heritage conservation. She has participated in 31 projects from national and international calls and in 5 research contracts with companies and administrations. Furthermore, I am fully concerned with gender mainstreaming in research and technology, which has guided me to organize several national workshops and to publish (as editor and author or co-author) a number of publications on this topic. From 2012 to 2020 I was the Head of the Bureau for Gender Equality in the UDC, responsible for policies and strategies for promoting gender equality in both teaching and scientific fields, in agreement with Horizon 2020 guidelines. In 2019 she was also responsible for managing the funds of the Pacto de Estado contra la Violencia de Género (State Pact against gender violence) in the UDC (>100.000€).
Member of the Executive Committee of AMIT (Association for Women in Science and Technology: http://www.amit-es.org/). From 2015 at present I am chair of AMIT_GAL, the Galician node of AMIT; and since June 2018 I am also Vice-President of the Specialized Group Women in Phyiscs of Spanish Royas Society of Physics (http://www.gemf-rsef.es/).

**Part C. Relevant accomplishments**

**C.1. Publications**

Ana Jesús López Díaz; Javier Lamas Vigo; Santiago Pozo Antonio; Teresa Rivas Brea; A. Ramil. 2020. Development of processing strategies for 3D controlled laser ablation: Application to the cleaning of stonework surfaces. OPTICS AND LASERS IN ENGINEERING. 126, 1-9. ISSN:0143-8166

Ana Jesús López Díaz; A. Ramil; J.S. Pozo-Antonio; Teresa Rivas Brea; Dolores Pereira. 2019. Ultrafast laser surface texturing: A sustainable tool to modify wettability properties of marble. Sustainability. 11, 1-17. ISSN:2071-1050

A. Ramil; A. J. López; J.S. Pozo-Antonio; Teresa Rivas Brea. 2018. A computer vision system for identification of granite-forming minerals based on RGB data and artificial neural networks. Measurement. 117, 90-95. ISSN:0263-2241

Ana Jesús López Díaz; J.S. Pozo-Antonio; Alberto Ramil Rego; Teresa Rivas Brea. 2018. Influence of the commercial finishes of ornamental granites on roughness, colour and reflectance. CONSTRUCTION AND BUILDING MATERIALS. 182, 530-540. ISSN:0950-0618

María Paula Fiorucci Alsina; Ana Jesús López Díaz; Alberto Ramil Rego. 2018. Multi-scale characterization of topographic modifications on metallic biomaterials induced by nanosecond Nd:YVO4 laser structuring. PRECISION ENGINEERING-JOURNAL OF THE AMERICAN SOCIETY FOR PRECISION ENGINEERING. 53, 163-168. ISSN:0141-6359

Ana Jesús López Díaz; Alberto Ramil Rego; Santiago Pozo; María Paula Fiorucci Alsina; Teresa Rivas Brea. 2017. Automatic Identification of Rock-Forming Minerals in Granite Using Laboratory Scale Hyperspectral Reflectance Imaging and Artificial Neural Networks. JOURNAL OF NONDESTRUCTIVE EVALUATION. 36:52, 1-9. ISSN:0195-9298

Santiago Pozo Antonio; María Paula Fiorucci Alsina; Teresa Rivas Brea; Ana Jesús López Díaz; Alberto Ramil Rego; D. Barral. 2016. Suitability of hyperspectral imaging technique to evaluate the effectiveness of the cleaning of a crustose lichen developed on granite. APPLIED PHYSICS A-MATERIALS SCIENCE & PROCESSING. 122, 1-9. ISSN:0947-8396

Santiago Pozo Antonio; María Paula Fiorucci Alsina; Alberto Ramil Rego; Ana Jesús López Díaz; Teresa Rivas Brea. 2015. Evaluation of the effectiveness of laser crust removal on granites by means of hyperspectral imaging techniques. APPLIED SURFACE SCIENCE. 347, 832-838. ISSN:0169-4332

Teresa Rivas Brea; Ana Jesús López Díaz; Alberto Ramil Rego; Santiago Pozo Antonio; María Paula Fiorucci Alsina; María Eugenia López de Silanes; Ana Isabel Martínez García; Javier Rodríguez Vázquez de Aldana; Carolina Romero; Pablo Moreno-Villalobos. 2013. Comparative study of ornamental granite cleaning using femtosecond and nanosecond pulsed lasers. APPLIED SURFACE SCIENCE. 278, 226-233. ISSN:0169-4332

Ana Jesús López Díaz; T. Rivas; Javier Lamas; Alberto Ramil Rego; Armando José Yáñez Casal. 2010. Optimisation of laser removal of biological crusts in granites. APPLIED PHYSICS A-MATERIALS SCIENCE & PROCESSING. 100, 733-739. ISSN:0947-8396

**C.2. Research Projects and Grants**

Reference: BIA2017-85897-R. Title: Optimización de los procesos de ablación láser para la limpieza y texturizado de superficies en 3D de rocas ornamentales. Financing entity: Ministerio de Economía y Competitividad (MINECO). IP: Alberto Ramil Rego. Participating entities: Universidade da Coruña ,Universidade de Vigo, Universidad de Salamanca. Start: 01/01/2018 Finish: 31/12/2020, amount of the subsidy: 99.220,00 €

Reference: 91889-EPP-1-2017-1-ES-EPPK.AI-SSA-B. Title: MATES - Maritime Alliance for fostering the European Blue economy through a Marine Technology Skilling Strategy. Financing entity: Union Europea. IP: Vicente Díaz Casás. Participating entities: Universidade da Coruña, Consellería de Cultura, Educación e Ordenación Universitaria, Fundación CETMAR,Asociación de Industriales Metalúrgicos de Galicia (ASIME),CT Ingenieros A.A.I., S.L.. Start: 20/11/2017 Finish: 30/09/2021, amount of the subsidy: 40.317,00 €

Reference: MAT2014-53764-C3-2-R. Title: Surface modification of beta titanium alloys using laser technology. Financing entity: Ministry of Economy and Competitiveness (MINECO). PI: Armando José Yáñez Casal. Participating entities: University of Coruña (UDC). Start: 01/01/2015 Finish: 12/31/2017, amount of the subsidy: 60,500.00 €

Reference: BIA2014-54186-R. Title: Optimization of the cleaning with laser of developed skates on granite and related rocks. Application to the conservation of heritage. Financing entity: Ministry of Economy and Competitiveness (MINECO). PI: 1. Participating entities: University of Coruña (UDC), University of Vigo. Start: 01/01/2015 Finish: 12/31/2017, amount of the subsidy: 108,900.00 €

Reference: UNLC13-1E-2434. Title: Mejora de las propiedades superficiales de materiales metálicos: procesado mediante láser y análisis de su respuesta a la oxidación y corrosión. Financing entity: Ministerio de Economía y Competitividad (MINECO). IP: Armando José Yánez Casal. Participating entities: Universidade da Coruña (UDC). Start: 31/12/2014 Finish: 31/12/2015, amount of the subsidy: 187.355,50 €

Reference: CTM2010-19584. Title: Definición de los protocolos más eficaces para la desalación y la limpieza de Costras negras en granitos ornamentales. Financing entity:

Ministerio de Economía y Competitividad. IP: Teresa Rivas Brea. Participating entities: Universidade de Vigo,Universidade da Coruña (UDC). Start: 01/01/2011 Finish: 31/12/2013, amount of the subsidy: 129.470,00 €

Reference: 09SEC003203PR. Title: Análise dos factores de risco da pintura mural da Ribeira Sacra. Financing entity: Xunta de Galicia. IP: Benita Silva Hermo. Participating entities: . Start: 05/12/2009 Finish: 04/12/2012, amount of the subsidy: 82.599,90 €

**C.3. Contracts**

Title: Automatic classification of groups of tables by artificial vision: identification of buds. Financing entity: Ministry of Rural Affairs (Xunta de Galicia). IP: A. Ramil. Participating entities: CARRONZA, University of Coruña. Start: 01/10/2018 Finish: 09/30/2019, amount of the subsidy: 24,956.02 €

**C.4. Patents and other IPR**

**C.5, C.6, C.7… Other**

**C.5 Direction of Doctoral thesis**
Title: Application of pulsed nanosecond laser ablation to the cleaning and texturing of materials
PhD: Maria Paula Fiorucci
University: UNIVERSIDADE DA CORUÑA (UDC)
School / School: Higher Polytechnic School
International / European: No
Date: 06/24/2015
Title: Development of digital reconstruction of holographic images for application to non-destructive tests
PhD: Fabio Miguel Vincitorio
University: UNIVERSIDADE DA CORUÑA (UDC)
School / School: Higher Polytechnic School
International / European: No
Date: 05/12/2014
Title: Efficacy of chemical, physical and mechanical methods in cleaning granite crusts and graffiti
PhD: José Santiago Pozo Antonio
University: Universidade de Vigo
School / School: Escuela Técnica Superior de Ingeniería de Minas,
Internacional/Europea: No
Fecha: 22/07/2013

**C.6 Direction of Degree thesis**

**Final Degree Project**
Title: Texturing of biomateriais with high frequency femtosecond laser to improve cell adhesion
**Final Master's Project**
Title: Application of multispectrais imaxes for the evaluation of granite cleaning with laser
Title: Realization of micromachining processes with UV laser
Title: Development of a system based on speckle interferometry for the non-destructive analysis of materials
**Other**
2012-2020: Head of the Bureau for Gender Equality in the UDC, responsible for policies and strategies for promoting gender equality at the university.
2013-2020: Member of the Organizing Committee and Scientific Committee of the six editions of the XUGeX (Galician university workshop on gender).
2017: Organizing Committee of the XI meeting of the network of equality units of Spanish universities(XI Encuentro RUIGEU)