

**Part A. PERSONAL INFORMATION**

**CV date**

30/11/2020

First and Family name	Gabriel Alejandro, LÓPEZ -		
Social Security, Passport, ID number	X6006986F	Age	45 years
Researcher codes	Open Researcher and Contributor ID (ORCID) **	0000-0002-5429-7490	
	SCOPUS Author ID(*)	49964200900	
	WoS Researcher ID (*)	M-7414-2013	

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

**A.1. Current position**

Name of University/Institution	University of the Basque Country UPV/EHU		
Department	Applied Physics II		
Address and Country	Barrio Sarriena s/n		
Phone number	946018028	E-mail	gabrielalejandro.lopez@ehu.eus
Current position	Profesor Titular	From	02/08/2016
	Vice Dean of the Faculty	From	01/09/2018
Key words	Infrared radiometry, emissivity, thermo-physical properties, advanced metallurgical materials, shape memory alloys, phase transformations, electron microscopy, crystallography		

**A.2. Education**

PhD, Licensed, Graduate	University	Year
Chemical Engineering (homologated in Spain)	National University of Comahue (Neuquén, Argentina)	2000
Dr.rer.nat (homologated in Spain)	Max Planck Institute for Metals Research / Stuttgart University (Stuttgart, Germany)	2004

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

- 3 periods of 6-year research activity by CNEAI (last period 2013-2018, alive since 2019)
- 5 PhD theses (3 ongoing), one master thesis and 9 Bachelor Degree theses supervised.
- 51 articles in JCR journals; 7 in the top 10% (D1), 22 in the top 25% (Q1) and 32 in the top 33% (T1).
- 30 articles in editions with ISBN/ISSN not in JCR (11 indexed in WOS and/or Scopus).
- 940 citations; 731 without self-citations (WOS, SCOPUS and Google Scholar).
- 111 citation/year in the last 5 years (2015-2020) (86 citation/year without self-citations)
- $h = 14$  (WOS) (16 in SCOPUS) (ResearchGate  $h = 15$ ; RG score: 31.55, higher than 90 %)
- Average number of articles in JCR indexed journals per year = 2.68 (51/19 años).
- 61 research projects, recognized Research Groups or financially supported actions (in 10 as Principal Investigator); 13 internationals (8 EU), 9 nationals, and the rest regional.
- 118 contributions to congresses or events (99 internationals, 62 orals, **8 invited**).
- C1, C2, B1 and B2 supplements recognized by UNIBASQ for Research/Lecturing activity.
- Reviewer for 20 international journals (19 indexed in JCR; more than 100 reviews) and Guest Editor and Editorial Board Member of the JCR journal Metals (Q1).

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

Gabriel A. López studied Chemical Engineering at the National University of Comahue (Argentina). Due to his excellent academic performance, he was invited to do a PhD at the prestigious Max Planck Institute for Metals Research in Stuttgart (Germany). In 2004 he defended his PhD thesis with the best possible mark. Then he continued his career through



an **Intra-European Marie Curie Fellowship** in the Department of Applied Physics II of the University of the Basque Country UPV/EHU. Only 13% of the 500 proposals of the Physics Panel were granted. After his postdoctoral period (2009), he took charge of the Electron Microscopy Unit of the General Research Services of the UPV/EHU.

Given his scientific/academic vocation and considering that mastering the Basque language is a requirement to be lecturer at the UPV/EHU, he obtained the EGA certificate that, together with the corresponding accreditation, allowed him to obtain the position of Adjunct Professor in 2012. Continuing with his lecturing and research activity, he received the accreditation to be **Prof. Titular** (2013), a category he achieved in August 2016 passing a competitive process. He teaches General Physics, Thermodynamics and Experimental Techniques III (both in English and in Basque) in the Degree of Physics, together with other teaching activities. Since September 2018 he is Vice Dean for Student Affairs of the Faculty of Science and Technology, what evidences his compromise with the academic activity.

He shows a fruitful career (as can be seen in the information provided in A.3.) with a marked international footprint. He mainly worked in the field of materials science (physical metallurgy, phase transformations, interfaces, shape memory alloys, electron microscopy, etc.). He has collaborated with companies and, therefore, he also knows the requirements and points of view of applied research. In his last stage, since 2016, he increased his responsibilities, broadened his area of expertise, and assumed the **leadership of the Research Group on Thermophysical Properties of Materials**, which has a recognized international prestige in the area of infrared radiometry. In just 4 years he managed to increase the number of co-workers from 3 to 8, relaunching the whole scientific activity (17 articles in JCR journals since 2017, three invited talks in the THERMEC international conferences of 2016 and 2018) and establishing collaborations with technology centers and companies in the region (CICEnergune, Fundación Tecnalia, Petronor, ArcelorMittal, etc.) as well as with international institutions (universities and centres in France, USA, Austria, Germany, India, China, etc.). The Group was recognized with a B qualification in the last call Research Groups of the Basque Government (2019). His long-term goal is to consolidate the Group's activity in a field in which the UPV/EHU is unique in Spain and is renowned worldwide. The main lines of research in the medium term are the application of infrared emissivity measurements for the study of advanced alloys, including the latest generation aeronautical alloys, the optimization of materials for use in alternative energies (solar and nuclear) and the implementation thermo-optical measurements based on the same characterization technique. The group is made up of a multidisciplinary team that has members with proven experience, as well as young members, which gives it enormous potential.

## Part C. RELEVANT MERITS

### C.1. Publications (\*Corresponding author)

- 1) I. González de Arrieta, T. Echániz\*, R. Fuente, J.M. Campillo-Robles, J.M. Igartua, **G.A. López**. *Updated measurement method and uncertainty budget for direct emissivity measurements at the University of the Basque Country. Metrologia* 57(2020)045002-1-16. Impact factor (IF): 3.06 (value for 2019); Position (P): 19/64 (Q2)
- 2) I. González de Arrieta, T. Echániz\*, R. Fuente, E. Rubin, R. Chen, J.M. Igartua, M.J. Tello, **G.A. López**. *Infrared emissivity of copper-alloyed spinel black coatings for concentrated solar power systems. Sol. Energy Mater. Sol. Cells* 200(2019)109961-1-6. Citations: 2; IF: 6.98; P: 22/155 (Q1)
- 3) T. Echániz\*, I. González de Arrieta, R. Fuente, ..., **G.A. López**. *Thermal radiative properties of electron-beam-melted and mechanically alloyed V-4Cr-4Ti based alloys between 200 and 750°C. J. Nucl. Mater.* 513(2019)86-93. Citations:1; IF: 2.49;P: 2/34 (D1)
- 4) P. Dalvand\*, S. Raygan, **G.A. López**, M.B. Meléndez, V. Chernenko. *Properties of rare earth added Cu-12wt%Al-3wt%Ni-0.6wt%Ti high temperature shape memory alloy. Mater Sci. Eng. A* 754(2019)370-381. Citations: 1; IF: 4.08; P: 7/76 (D1)
- 5) A. Dan, B. Basu\*, T. Echániz, I. Gonzalez de Arrieta, **G.A. López**, H.C. Barshilia\*. *Effects of environmental and operational variability on the spectrally selective properties of W/WAIN/WAION/Al<sub>2</sub>O<sub>3</sub>-based solar absorber coating. Sol. Energy Mater. Sol. Cells* 185(2018)342-350. Citations: 6; IF: 6.02; P: 14/103 (Q1)



- 6) B.B. Straumal\*, A. Kilmametov, **G.A. López**, I. López-Ferreño, M.L. Nó, J. San Juan, H. Hahn, B. Baretzky. *High-pressure torsion driven phase transformations in Cu-Al-Ni shape memory alloys. Acta Mater.* 125(2017)274-285. Citations: 28; IF: 6.04; P: 1/75 (**D1**)
- 7) I. López-Ferreño, T. Breczewski, **G.A. López**, M.L. Nó, J. San Juan\*. *Stress-assisted atomic diffusion in metastable austenite DO<sub>3</sub> phase of Cu-Al-Be shape memory alloys. Scr. Mater.* 124(2016)155-159. Citations: 5; IF: 3.75; P: 3/74 (**D1**)
- 8) J. San Juan\*, J.F. Gómez-Cortés, **G.A. López**, C. Jiao, M.L. Nó. *Long-term superelastic cycling at nano-scale in Cu-Al-Ni shape memory alloy micropillars. Appl. Phys. Lett.* 104(2014)011901-1-5. Citations: 18; IF: 3.30; P: 21/144 (**Q1**)
- 9) **G.A. López\***, M.L. Nó, J. San Juan. *Crystal structure determination of a ternary Cu(In,Sn)<sub>2</sub> intermetallic phase by electron diffraction. J. Appl. Crystallogr.* 45(2012)963-971. Citations: 1; IF: 3.34; P: 4/23 (**Q1**)
- 10) **G.A. López\***, E.J. Mittemeijer. *The solubility of C in solid Cu. Scr. Mater.* 51(2004)1-5. **Citations: 217**; IF: 2.11; P: 4/71 (**D1**)

**Note:** It was published 16 years ago, but is included because is the most cited article.

## C.2. Research projects

- 1) Title: *Grupo de Inves. en Prop. Termofísicas de Materiales* (GIU19/019, IT1364-19)  
Funding entity: UPV/EHU / Basque Government      Type: University / Regional  
Institution: UPV/EHU      Granted budget: 26,270.88 €  
**Principal Investigator (PI): G.A. López**      Date: 01/01/2019-31/12/2022
- 2) Title: *Modelización para el desarrollo de algoritmos de corrección en termografía* (US19/13)  
Funding entity: UPV/EHU / Petronor S.A.      Type: University/Society  
Institution: UPV/EHU      Granted budget : 63,450.00 €  
PIs: R. Fuente Dacal / **G.A. López**      Date: 01/01/2019-31/12/2021
- 3) Title: *Desarrollo de actividades de investigación fundamental estratégica en almacenamiento de energía electroquímica y térmica para sistemas de almacenamiento híbridos* (Ref.: ELKARTEK-KK-2018/00098)  
Funding entity: Basque Government      Type: Regional/Coordinated  
Institutions: CIC Energigune, Universidad del País Vasco UPV/EHU, and others  
Coordinator: CIC Energigune  
Granted budget for the Group: 74,018.25 €      Total: 3,119,712.35 €  
**PI at UPV/EHU: G.A. López**      Date: 01/01/2018-31/12/2019
- 4) Title: *Emisividad infrarroja en materiales - Radiómetro para sólidos y líquidos – IREMI* (Ref.: PES16/35)  
Funding entity: UPV/EHU      Type: University  
Institution: UPV/EHU      Granted budget: 89.555 €  
**PI: G.A. López**      Date: 15/11/2016-14/11/2020
- 5) Title: *REsettable Hold-Down and Release ACTuator* (Ref.: Grant – 640241 – REACT)  
Funding entity: European Union      Type: European  
Institutions: Arquimea Ingeniería S.L., UPV/EHU (Spain), Spacotech GmbH (Germany), Surrey Satellite Technology Limited (UK) and others  
Coordinador: Arquimea Ingeniería S.L.      Date: 01/01/2015-30/10/2017  
Granted budget for the Group: 430.800 €      Total: 2.731.451 €  
PI at the UPV/EHU: J.M. San Juan Núñez      Activity: Researcher
- 6) Title: *Optimización de compuestos de alto amortiguamiento obtenidos a partir de aleaciones con memoria de forma avanzadas* (Ref.: S-PE13UN061)  
Funding entity: Basque Government (SPRI)      Type: Regional  
Institution: UPV/EHU      Granted budget: 6.251 €  
**PI: G.A. López**      Date: 01/01/2013-31/12/2013
- 7) Title: *Materiales nano-estructurados con memoria de forma* (Ref.: PCIN-2013-070)  
Title: *NanoPhase-Shift of the phase equilibria in nanograined materials* (STProjects-219)  
Funding entity: MINECO  
Type: Joint call National/European (ERA-NET-RUS)



Institutions: A.A.Baikov Institute of Metallurgy and Materials Science of RAS, Moscow; Universität Münster (Germany), UPV/EHU and others

Coordinator: S. Dobatkin (A.A.Baikov Institute) Date: 01/12/2013-01/12/2014

Granted budget for the Group: 35.000 € Total: 350.000 €

PI at the UPV/EHU: J.M. San Juan Núñez Activity: Researcher

- 8) Title: *"IMAGINE": Materials at sub-Angstrom resolution* (Ref.: CSD2009-00013)  
Funding entity: Ministry of Education and Science Type: National (Consolider 2010)  
Institutions: Universidad Complutense de Madrid, UPV/EHU, Univ. Cádiz, CSIC Instituto de Materiales de Madrid, Univ. Barcelona  
Coordinator: J. Gonzalez Calbet (Univ. Complutense) Date: 16/12/2009-15/12/2014  
Granted budget for the Group: 533.491 € Total: 3.600.000 €  
PI at the UPV/EHU: M.L. Nó Sánchez Activity: Researcher

### C.3. Contracts

- 1) Title: *Estudio de técnicas termo-ópticas para la medida de temperatura de piel de tubo en hornos de Petronor*  
Company: Petronor Innovación Type: Research contract  
Participants: UPV/EHU Date: 14/02/2019-13/02/2021  
PI: Raquel Fuente Budget: 89,241.18 €
- 2) Title: *Infrared emissivity measurements in alumina samples for contrast of industrial device + Measurements of infrared emissivity in a BN sample*  
Company: ArcelorMittal Sestao S.L.U. Type: Research contract  
Participants: UPV/EHU Date: 01/07/2017-01/11/2017  
**PI: G.A. López** Budget: 1.694 € +1.900 € = 3.594 €
- 3) Title: *Normal and directional infrared emissivity measurements in a simple of paint*  
Company: SENER Ingeniería y Sistemas, S.A. Type: Research contract  
Participants: UPV/EHU Date: 01/12/2017-28/02/2018  
**PI: G.A. López** Budget: 3.010 €
- 4) Title: *Infrared emissivity measurements in 316L steel with different surface finish*  
Company: ESS Bilbao Type: Research contract  
Participants: UPV/EHU Date: 30/06/2017-30/09/2017  
**PI: G.A. López** Budget: 31.764 €

### C.5. Activities as Reviewer/Editor/Evaluator

- 1) Reviewer for JCR journals: *Comp. Sci. Technol., Infrared Sci. Technol. Intermetallics, Int. J. Mater. Res., J. Alloys Compnd., J. Mater. Res., Materials, Mater. Charact., Mater. Chem. Phys., Mater. Sci. Eng A, Metall. Mater. Trans. A, Metals, Nanomaterials, etc.*
- 2) Editorial Board Member of *International Journal of Metals* (2013-2017; indexed in JCR). Guest Editor of *Proc. of the Inter. Conference ICOMAT-2014* published in *Materials Today Proceedings* (Elsevier). Guest Editor and Editorial Board Member of *Metals* (Q1 in JCR).
- 3) External evaluator for TIFER proposals (International Fellowships for Experienced Researchers) for TECNALIA (2014-2015). Member of the European Microscopy Society.

### C.6. Management

- 1) Vice Dean for Student Affairs of the Faculty of Sci. and Technol. of the UPV/EHU (2018).
- 2) Coordinator of the course General Physics, lectured in the Degrees of Physics, Electronic Engineering and Mathematics (since academic year 2015/2016). Representative on behalf of the Physics Section in the Commission of Economy of the Faculty of Science and Technology of the UPV/EHU (01/07/2017-01/09/2018).
- 3) Secretary of the Organizing Committee of the Int. Conf. on Martensitic Transformations ICOMAT-2014 (Bilbao), Organizing Committee Member of the Nat. Congress *Bienal de la SME* (Bilbao, 2007) and Session Chairman in the Int. Conf. HTC 2007 (Alicante).
- 2) Person in Charge of the Electron Microscopy Unit of the General Research Services of the UPV/EHU (Management of equipments, customers/users, suppliers, maintenance).

### C.7. Distinction

- 1) Invited to the 62nd Lindau **Nobel Laureate Meeting on Physics** (Germany, 2012).