

**TRENČIANSKA UNIVERZITA ALEXANDRA DUBČEKA
V TRENČÍNE**

**PODKLADY K ŽIADOSTI O ZAČATIE HABILITAČNÉHO KONANIA V ODBORE
HABILITAČNÉHO KONANIA: ANORGANICKÁ TECHNOLOGIA A MATERIÁLY**

DOCUMENTS TO THE APPLICATION FOR INITIATING THE HABILITATION PROCEDURE IN THE
FIELD OF HABILITATION PROCEDURE: INORGANIC TECHNOLOGY AND MATERIALS

Dr. Jose Joaquín Velázquez García

Trenčín 2021

CONTENT

| | |
|---|-----------|
| I. ADMINISTRATIVE REQUIREMENTS | 1 |
| Curriculum | 1 |
| Ph.D Certificate | 6 |
| II. TEACHING AND PEDAGOGICAL ACTIVITIES | 7 |
| III. HABILITATION THESIS | 9 |
| IV. SCIENTIFIC RESEARCH and PUBLICATION ACTIVITIES | 10 |
| A. PUBLICATION ACTIVITIES | 12 |
| B. PROFESSIONAL ACTIVITIES | 18 |
| C. PROJECT ACTIVITIES | 71 |
| V. SCIENTIFIC EDUCATION | 73 |
| VI. OTHER PROFESSIONAL ACTIVITIES | 74 |
| DECLARATION | 76 |

I. ADMINISTRATIVE REQUIREMENTS

Životopis Curriculum Vitae

Meno a priezvisko, rodné priezvisko,
akademický titul, vedecko-pedagogický titul
alebo umelecko-pedagogický titul a vedecká
hodnosť

(Name and surname, title)

Dátum a miesto narodenia

(Date and place of birth)

Vysokoškolské vzdelanie a ďalší
akademický rast

(Higher Education and academic growth)

Dr. Jose Joaquín Velázquez García

Head of Department of Functional Materials, FunGlass

Santa Cruz de Tenerife, Španielsko

26.07.1974

2020 Vedecký kvalifikačný stupeň II

**Názov Organizácie ktora poskytla vzdelávanie
a stupeň / titul priznala:** Slovenská Akadémia vied,
Predsedníctvo SAV, Bratislava

26/7/2013 PhD, Official Doctorate program in Physics
and Computer Science: Material Science

Názov dizertačnej práce: Lanthanides ions doped
Glass-ceramics based on insulating and/or
semiconductors nanocrystals dispersed in SiO₂.
Synthesis, structural, and spectroscopic
characterization.

**Názov Organizácie ktora poskytla vzdelávanie
a stupeň / titul priznala:** Faculty of Physics,
Universidad de La Laguna, San Cristobal de La
Laguna, Španielsko

31/7/2007 Advanced Studies Certificate (DEA)

**Názov Organizácie ktora poskytla vzdelávanie
a stupeň / titul priznala:** Universidad de La Laguna,
San Cristobal de La Laguna, Španielsko

28/9/2005 Bachelor degree in Physics (Applied
Physics)

**Názov Organizácie ktora poskytla vzdelávanie
a stupeň / titul priznala:** Universidad de La Laguna,
San Cristobal de La Laguna, Španielsko

Ďalšie vzdelávanie

(additional education)

01/6/2006 Teaching Training Course (CAP)

**Názov Organizácie ktora poskytla vzdelávanie
a stupeň / titul priznala:** Universidad Complutense de
Madrid, Madrid, Španielsko

Speciality: Physics and Chemistry

Pribeh zamestnaní
(*employment history*)

01/06/2020–súčasnot: Head of Department of Functional Materials, Centre for Functional and Surface Functionalized Glass-Alexander Dubček University of Trenčín, Trenčín, Slovensko.

17/02/2020–01/05/2020: Acting Head of Department of Functional Materials, Centre for Functional and Surface Functionalized Glass-Alexander Dubček University of Trenčín, Trenčín, Slovensko.

22/1/2018–16/02/2020: Researcher, Centre for Functional and Surface Functionalized Glass-Alexander Dubček University of Trenčín, Trenčín, Slovensko.

Researcher in project: FunGlass/CEGLASS, Develop of porous materials for photonic applications. Develop of coating for protection against corrosion in the project: The relationship between composition, structure and properties of inorganic-organic nanocomposite films for protection of materials“ (VEGA 1-0431-18)

16/6/2017–15/1/2018: Materials Science Researcher Consejo Superior de Investigaciones Científicas (CSIC), Madrid, Španielsko.

Researcher in project; "Estructura y propiedades de vidrios y vitrocerámicos nanocristalinos procesados por fusión y por sol-gel" Design, processing and characterisation of glasses, glass-ceramics and sol-gel materials, going from the structural features to properties (optical, mechanical, chemical, thermal, electrical, etc) and applications.

Advisor of Master and Bachelor degree of end of year degree projects

Autoclave operator

1/6/2015–31/5/2017: Materials Science Researcher (2013 FPGI Programme), Consejo Superior de Investigaciones Científicas (CSIC), Madrid (Spain)

Research in projects; "Effect of processing on the structure and properties of glasses and glassceramics with photonic applications (VITROPHOTONICS)" and "High-quality optical luminescent glass and glass-ceramics for photonics applications (VITROPHOTONICS Q+)" Design, processing and characterisation of glasses, glass-ceramics and sol-gel materials, going from the structural features to properties (optical, mechanical, chemical, thermal, electrical, etc) and applications.

Advisor of Master and Bachelor degree of end of year degree projects
Autoclave operator

16/10/2014–14/1/2015: Electron Microscopy Service Technician,

20/5/2014–15/10/2014: Researcher, Universidad de La Laguna, San Cristobal de La Laguna, Španielsko.

Researcher at "Materials for sustainable and clean energy" (MAT2013-42407-R) and "Hydrogen production with solar energy via Water Splitting" (HIDROSOLAR) Projects.

Develop of Water splitting materials for H₂ production.
Develop of measurement setup for H₂ quantification
Advisor of extracurricular projects of bachelor degree students in Physics

16/1/2011–15/1/2013: FPI Fellow (former researcher personnel, Canary Island Autonomous Government and European Social Fund), Universidad de La Laguna, San Cristobal de La Laguna, Španielsko.

working in projects: Nanostructured luminescent materials for optimal use of solar energy in photovoltaic cells (MAT2009-12079) and IMPROVING EFFICIENCY PHOTOVOLTAIC CELLS BY NANOMATERIALS LUMINESCENT (PIL2260902)

Official teaching in different subjects.

16/1/2009–15/1/2011: Fellow (FPI Grant, Canary Island Autonomous Government and European Social Fund), Universidad de La Laguna, San Cristobal de La Laguna, Španielsko.

Work in the Project: Luminescent nanostructured glass-ceramics: a possible new generation of integrated photonics devices (FIS2006-02980).

9/6/2008–14/1/2009: Magnetism Measurement Service, Technician, Universidad de La Laguna, San Cristobal de La Laguna, Španielsko.

2/1/2007–8/6/2008: Thermal Analysis Service, Technician, Universidad de La Laguna, San Cristobal de La Laguna, Španielsko.

Pribeh pedagogickej činnosti
(pracovisko/predmety)

Name of the course: **Physics II**. Type of subject: Obligatory.
University degree: Bachelor Degree in Mechanical

(Course of Pedagogical activities: place of employment/ subjects)

Engineering. Course given: 1^o End date: 2012
Hours/ECTS credits: 30. Entity: Universidad de La Laguna, San Cristobal de La Laguna, Španielsko. Type of entity: University. Department: Depart. of Basic Physics.

Name of the course: **Physics II.** Type of programme: Engineering. Type of subject: Obligatory. University degree: **Bachelor degree in Electronics, Industrial and Automation Engineering.** Course given: 1^o End date: 2012 **Hours/ECTS credits: 30.** Entity: Universidad de La Laguna, San Cristobal de La Laguna, Španielsko Type of entity: University. Faculty, institute or centre: Technics School of Electronics, Industrial and Automation Engineering. Department: Depart of Basic Physics

Name of the course: **Expanding Optics.** Type of programme: Bachelor's degree. Type of subject: Optional. University degree: **Bachelor degree in Physics: Applied Physics.** Course given: 4^o. End date: 2012. **Hours/ECTS credits 40.** Entity: Universidad de La Laguna, San Cristobal de La Laguna, Španielsko Type of entity: University. Faculty, institute or centre: Facultad de Física. Department: Depart of Fundamental and Experimental Physics; Electronica and System. City of entity: La Laguna, Canary Islands, Spain

Name of the course: **Applied Physical Fundamentals of Engineering.** Type of programme: Engineering. Type of subject: Obligatory. University degree: **Degree in Nautical Engineering and Maritime Transport and Naval Radio Electronics.** Course given: 1^o End date: 2011. **Hours/ECTS credits: 10** Entity: Universidad de La Laguna, San Cristobal de La Laguna, Španielsko Department: Depart. Basic Physics. City of entity: La Laguna, Canary Islands, Spain

Name of the course: **Nanomaterials. Structural and Optical Characterization** Type of programme: **Master on Physics: Materials Structure.** Type of subject: Obligatory. End date: 2011. **Hours/ECTS credits: 10** Entity: Universidad de La Laguna, San Cristobal de La Laguna, Španielsko Department: Depart. Basic Physics. City of entity: La Laguna, Canary Islands, Spain

Odborné alebo umelecké zameranie
(professional, scientific focus)

Oxyfluoride and Semiconductor glass and glass-ceramics
Optically active materials
Porous based materials
Crystallization
Synthesis techniques: Sol-gel, Melting-Quenching, freeze-drying
Functional materials for optics and energy

Publikačná činnosť vrátane rozsahu (autorské hárky) a kategórie evidencie podľa vyhlášky č. 456/2012 Z. z.
 1. monografia
 2. učebnica
 3. skriptá
(Publication activities, scope – pages: , categories: 1. monograph, 2. textbook, 3. instructional texts)

Ohlasy na vedeckú/umeleckú prácu (*citations*)
 Počet doktorandov: školených ukončených
 (neplatí pre habilitačné konanie)
(Number of PhD students: ongoing/ defended, it doesn't concern habilitation process)
 Kontaktná adresa (*adress*)

Structural characterization: XRD, SEM, HRTEM, FT-IR, TG-DTA, Dilatometry
 Optical characterization: Fluorescence Spectroscopy (steady state and time resolve), UV-VIS-NIR and IR spectroscopy

Book Chapter:

- Balda, R., Gorni, G., Velázquez, J.J., Pascual, M.J., Durán, A., Fernández, J.
 Performance of Nd³⁺ As structural probe of rare-earth distribution in transparent nanostructured glass-ceramics
 (2018) NATO Science for Peace and Security Series B: Physics and Biophysics, pp. 297-313.
 DOI: 10.1007/978-94-024-1544-5_16

Instructional text:

- Laboratory practices, Expanding Optics.
 Prof. Vicente Rodriguez and Jose J. Velazquez

732

2 PhD students (ongoing)

FunGlass–Centre for Functional and Surface Functionalized Glass, Alexander Dubček University of Trenčín
 Študentská 2, 911 50 Trenčín, Slovakia
 Tel: +421 32 7400 516
 Email: jose.velazquez@tnuni.sk

| City | Date | Name and Title |
|---------|------------|-----------------------------------|
| Trencin | 24.11.2021 | Dr. Jose Joaquín Velázquez García |

Ministerstvo školstva, vedy, výskumu a športu Slovenskej republiky

Stredisko na uznávanie dokladov o vzdelaní

Stromová 1

813 30 Bratislava

Číslo spisu

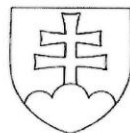
2021/15227-2-D2820

Bratislava

24. 06. 2021

Vybavuje

Turček Alexander / kl. 922



ROZHODNUTIE

Popis konania / Účastníci konania

Ministerstvo školstva, vedy, výskumu a športu Slovenskej republiky, Stredisko na uznávanie dokladov o vzdelaní (ďalej len „ministerstvo školstva“) ako správny orgán príslušný podľa § 3 ods. 1 písm. i) a § 39 ods. 2, 3 a 9 zákona č. 422/2015 Z. z. o uznávaní dokladov o vzdelaní a o uznávaní odborných kvalifikácií a o zmene a doplnení niektorých zákonov v znení neskorších predpisov

Výrok rozhodnutia

uznáva

doklad o udelení titulu: Doctor por la Universidad de La Laguna (č. 2014/133670)

dátum vydania: 27. 02. 2014

vydaný na: Universidad de La Laguna, San Cristóbal de La Laguna

v (štát štúdia): Španielske kráľovstvo

znejúci na (meno, dátum narodenia): José Joaquín Velázquez García, nar. 26. 07. 1974

za rovnocenný s dokladom o vysokoškolskom vzdelaní tretieho stupňa vydaným vysokou školou v Slovenskej republike.

Týmto rozhodnutím sa uznáva doklad o vzdelaní bez uznania odbornej kvalifikácie a bez porovnania obsahu a uznania rovnocennosti absolvovaného študijného odboru so študijným odborom v Slovenskej republike.

Držiteľ dokladu o vzdelaní je oprávnený v Slovenskej republike používať akademický titul „Doctor por la Universidad de La Laguna“, ktorý mu bol priznaný podľa vnútroštátnych právnych predpisov v Španielskom kráľovstve.

Odôvodnenie

Poučenie

Proti tomuto rozhodnutiu možno podľa § 61 zákona č. 71/1967 Zb. o správnom konaní (správny poriadok) v znení neskorších predpisov podať rozklad v lehote 15 dní od jeho oznámenia na Ministerstvo školstva, vedy, výskumu a športu Slovenskej republiky, Stromová 1, 813 30 Bratislava. Toto rozhodnutie je preskúmateľné súdom po vyčerpaní riadnych opravných prostriedkov.

Alena Fodorová

Riaditeľka strediska na uznávanie dokladov o vzdelaní

Doručuje sa

José Joaquín Velázquez García

Hurbanova 1600 /62

911 01 Trenčín

Slovenská republika

II. TEACHING AND PEDAGOGICAL ACTIVITIES

A. List of lectures: in Master and Bachelor Study

1. **Physics II.** Type of subject: Obligatory Type of teaching: Laboratory work. University degree: Bachelor Degree in Mechanical Engineering. Course given: 1º End date: 2012 Hours/ECTS credits: 30. Entity: Universidad de La Laguna Type of entity: University. Department: Depart. of Basic Physics. Academic years: 2011-2012
2. **Physics II.** Type of subject: Obligatory Type of teaching: Laboratory work. Type of programme: Engineering. University degree: Bachelor degree in Electronics, Industrial and Automation Engineering. Course given: 1º End date: 2012 Hours/ECTS credits: 30. Entity: Universidad de La Laguna Type of entity: University. Faculty, institute or centre: Technics School of Electronics, Industrial and Automation Engineering. Department: Depart of Basic Physics. Academic years: 2011-2012
3. **Expanding Optics.** Type of subject: Optional. Type of teaching: Laboratory work Type of programme: Bachelor's degree University degree: Bachelor degree in Physics: Applied Physics. Course given: 4º. End date: 2012. Hours/ECTS credits 40. Entity: Universidad de La Laguna Type of entity: University. Faculty, institute or centre: Facultad de Física. Department: Depart of Fundamental and Experimental Physics; Electronica and System. City of entity: La Laguna, Canary Islands, Spain. Academic years: 2010-2011, 2011-2012
4. **Applied Physical Foundations of Engineering.** Type of subject: Obligatory. Type of teaching: Laboratory work Type of programme: Engineering. University degree: Degree in Nautical Engineering and Maritime Transport and Naval Radio Electronics. Course given: 1º End date: 2011. Hours/ECTS credits: 10 Department: Depart. Basic Physics. City of entity: La Laguna, Canary Islands, Spain. Academic years:
5. **Nanomaterials. Structural and Optical Characterization.** Type of subject: Obligatory. Type of programme: Master on Physics: Materials Structure. End date: 2011. Hours/ECTS credits: 10 Department: Depart. Basic Physics. City of entity: La Laguna, Canary Islands, Spain. Academic years: 2010-2011

List of lectures: Extracurricular activities,

2. Description of the activity: **Renewable energies: present situation, basic concepts and dimensioning facilities in Canarias,** Organising entity: FUNDACION EMPRESA-UNIVERSIDAD DE LA LAGUNA End date: 18/03/2016
3. Description of the activity: interdisciplinary course: **Scientists, discoveries and technological advances that have changed the world.** City of activity: San Cristobal de La Laguna, Canary Islands, Spain. Organising entity: Universidad de La Laguna Type of entity: University. End date: 09/10/2015
4. Description of the activity: **Renewable energies: present situation, basic concepts and dimensioning facilities in Canarias.** Organising entity: FUNDACION EMPRESA-UNIVERSIDAD DE LA LAGUNA. End date: 02/03/2015.
5. Description of the activity: **XXI century: the challenge of renewable energy and energy efficiency in the Canary Islands.** Organising entity: Summer university, Universidad de La Laguna-Ayuntamiento de Adeje. End date: 21/07/2014,

B. List of bachelor and master thesis co-supervised

1. Project title: Transparent nano-glass ceramics produced by sol-gel as bulk materials. Type of project: Final year project. Co-director of thesis: Jadra Mosa; Jose J. Velazquez; Yolanda Castro. Entity: Université de Rennes-IUT Saint-Brieuc. Student: **Josselin Broustal**. Date of reading: 01/07/2017. Quality recognition: Yes
2. Project title: Revêtement nanostructuré transparent $\text{SiO}_2/\text{GdF}_3$ préparé par sol-gel avec des propriétés photoniques. Type of project: Final year project. Co-director of thesis: Jadra Mosa; Jose J. Velazquez. Entity: Université de Rennes-IUT Saint-Brieuc. Student: **Marin Michel** Date of reading: 28/06/2016. Quality recognition: Yes.
3. Project title: RE doped transparent oxyfluoride nano glass-ceramics obtained by melting for use in fibers. Type of project: Minor thesis. Co-director of thesis: Alicia Duran; Jose J. Velazquez; Giulio Gorni, Entity: Univ. IUT Saint-Brieuc Type of entity: University. City of entity: Rennes, France. Student: **Malo Picaud**. Date of reading: 16/06/2016

C. List of PhD, thesis

1. Dissertation topic: Multifunctional glass coatings by sol-gel for different applications. **Haritha Ajitha Haridasa**, MSc. Co-supervisor: Dr. Jose Joaquin Velazquez Garcia, Dr. Yolanda Castro Martin. In progress. Starting date: 25.11.2019.
2. Dissertation topic: Novel Binary semiconductor-based materials for sustainable and clean energy: from synthesis to H_2 production. **Muhammad Umer Iqbal**, MSc. Co-supervisor: Dr. Jose Joaquin Velazquez Garcia, Prof. Lothar Wondraczek. In progress. Starting date: **Accepted** expected starting date 01.02.2022.

III. HABILITATION THESIS

The applicant for the habilitation procedure submits the habilitation thesis:

“Nanostructure Oxyfluoride Glass-ceramics: Relationship between synthesis, processing and structural and optical properties”

in the form of a set of published scientific papers supplemented by a commentary.

IV. SCIENTIFIC RESEARCH and PUBLICATION ACTIVITIES

KRITÉRIÁ NA ZÍSKANIE TITULU DOCENT A PROFESOR Criteria for obtaining the title “docent” and “professor”

| Minimal obligatory requirements | Minimum requirements to for starting | | Actual Status |
|--|---|--|---------------|
| | Associate professor appointment procedure | Professor appointment procedure | |
| EVALUATION OF PEDAGOGICAL ACTIVITIES | | | |
| I. Pedagogical activities | | | |
| Pedagogical experiences in a particular field | 3 years after PhD | 3 years after associated professor award | |
| Authorship (co-authorship) of the textbooks or the instructional texts and materials: | | | |
| • Textbooks (ACA, ACB, ACC, ACD) | | | |
| • Instructional texts and materials, electronic instructional texts (BCI, BCK) | 1 | 2 | 1 |
| EVALUATION OF SCIENTIFIC AND RESEARCH ACTIVITIES | | | |
| II. Sciebtific and Research activities | | | |
| Original scientific works in foreign and national peer-reviewed journals and conference proceedings (ADC, ADD, ADM, ADN, ADE, ADF, AEC, AED, AFA, AFB, AFC, AFD) and patents, authors' certifications inventions and discoveries (AGJ) total ¹ , in that: | 15 | 50 | 50 |
| • Original Scientific Works in scientific journals listed in WOS database (ADC, ADD) ¹ | 12 | 30 | 46 |
| • Patents, authors' certifications and inventions and discoveries ^{1,4} | | | |
| Scientific papers or outputs of A category by the Accreditation Commission of the SR total, in that: | 6 | 15 | 42 |
| Scientific works or outputs of A category by the Accreditation Commission of the SR ² , in that: | | 20 | 42 |
| Scientific works in journals (listed in WOS database, $IF \geq 0,9 IF_M$) ³ | | | |
| Monograph of AAA category (by the categorization of the Ministry of Education of the Slovak Republic) ^{1,4} | | | |
| • Chapters or scientific studies of ABA or ABC category in scientific monographs published in foreign language ^{1,4} | | | 1 |

| | | | |
|--|------|------|------------|
| • Demonstratively realized patents ^{1, 4} | | | |
| III. Citations and Responses | | | |
| Citations (SCI, SCOPUS, book and others) total ¹ , in that: | 25 | 80 | 516 |
| • Citations registered in WOS and SCOPUS | 25 | 70 | 516 |
| • Other non-registered citations | | | |
| IV. Scientific Background | | | |
| • CSc. or PhD., Dr., DSc. | PhD. | PhD. | |
| • The number of doctoral students who have gained PhD degree | | 2 | |
| • Principal investigator (coordinator) of grant project | | 1 | 1 |
| • Co-investigator of the grant project | 3 | 6 | 12 |

Explanations:

- Počet vedeckých prác je bez prepočítania na počet autorov. Rovnako sa neprepočítavajú na počet autorov citácie, patenty a monografie/kapitoly v monografiách.
The number of scientific works is without recalculation to the number of authors. They are also not recalculated for the number of authors of citations, patents and monographs / chapters in the monograph.
- V prípade najmenej 20 výstupov kategórie A nie je potrebné splniť podmienku počtu 30 vedeckých prác v karentovaných časopisoch v databáze WOS.
In the case of at least 20 Category A outputs, it is not necessary to meet the condition of the number of 30 scientific papers in the journals in the WOS database.
- 0,9 IF_M je pre chemické vedy a pre biotechnológie 1,00.
0,9 IF_M is for chemical sciences and 1,00 IF_M is for biotechnologies.
- Zohľadnenie výstupov vo forme monografií/kapitol v monografiách a patentoch:
Consideration of scientific outputs in the form of monographs / chapters in monographs and patents:
 - Monografia/ kapitola vo vedeckej monografii môže nahradiť najviac tri/jednu vedeckú prácu, podľa rozsahu a vydavateľstva.
A monograph / chapter in a scientific monograph may replace a maximum of three / one scientific papers, depending on the scope and publishing house.
 - Každý prijatý európsky alebo svetový patent je ekvivalentný 10% odporúčaného počtu vedeckých prác v časopisoch s rovnakým alebo vyšším IF ako je požadované.
Each European or world patent received is equivalent to 10% of the recommended number of scientific papers in journals with the same or higher IF than required.
 - Každý preukázateľne realizovaný patent je ekvivalentný 20% odporúčaného počtu vedeckých prác v časopisoch s rovnakým alebo vyšším IF ako je požadované.
Each demonstrably realized patent is equivalent to 20% of the recommended number of scientific papers in journals with the same or higher IF than required.

A. PUBLICATION ACTIVITIES

PhD thesis

1. **PhD thesis: Lanthanides ions doped Glass-ceramics based on insulating and/or semiconductors nanocrystals dispersed in SiO₂. Synthesis, structural, and spectroscopic characterization.** Dr. Jose Joaquin Velazquez Garcia, Spain, 2013, 130 Pages, Supervisor: Prof. Vicente D. Rodríguez Armas and Prof. Angel Carlos Yanes Hernández.

ABA (Chapters in scientific monographs published in foreign publishing houses): 1

1. Balda, R., Gorni, G., **Velázquez, J.J.**, Pascual, M.J., Durán, A., Fernández, J. Performance of Nd³⁺ As structural probe of rare-earth distribution in transparent nanostructured glass-ceramics (2018) NATO Science for Peace and Security Series B: Physics and Biophysics, pp. 297-313. DOI: 10.1007/978-94-024-1544-5_16

ADC (Scientific works in foreign journals registered in Current Contents): 46

1. Dagupati R., Klement R., Rajavaram R., **Velázquez J. J.**, Galusek D., In Situ Synthesis of β -Na_{1.5}Y_{1.5}F₆:Er³⁺ Crystals in Oxyfluoride Silicate Glass for Temperature Sensors and Their Spectral Conversion and Optical Thermometry Analysis, (2021) MOLECULES, 26, 6901. <https://doi.org/10.3390/molecules26226901>, IF = 4.411
2. **Velazquez, J.J.**, Balda, R. Fernandez, J., Gorni, G., Sedano, M., Duran, A., Galusek, D., Pascual, M. J. Structural and optical properties in Tm³⁺/Tm³⁺-Yb³⁺ doped NaLuF₄ glass-ceramics, INTERNATIONAL (2021) JOURNAL OF APPLIED GLASS SCIENCE, 12, pp. 485-496, DOI: 10.1111/ijag.16322, IF = 2.029
3. **Velazquez, J. J.**, Gorni, G., Balda, R. Fernandez, J., Pascual, L., Duran, A., Pascual, M. J., Non-Linear Optical Properties of Er³⁺-Yb³⁺-Doped NaGdF₄ Nanostructured Glass-Ceramics (2020) NANOMATERIALS, 10, 1425, DOI: 10.3390/nano10071425, IF = 5.076
4. Gorni, G., **Velazquez, J. J.**, Kochanowicz, M., Dorosz, D., Balda, R. Fernandez, J., Duran, A., Pascual, M. J., Tunable upconversion emission in NaLuF₄-glass-ceramic fibers doped with Er³⁺ and Yb³⁺, (2019) RSC ADVANCES, 9, pp. 31699-31707, DOI 10.1039/c9ra05182a, IF = 3.119
5. **Velazquez, J. J.**, Mosa J., Gorni, G., Balda, R. Fernandez, J., Duran, A., Castro Y., Novel sol-gel SiO₂-NaGdF₄ transparent nano-glass-ceramics, (2019) JOURNAL OF NON-CRYSTALLINE SOLIDS, 520, 119447, DOI 10.1016/j.jnoncrysol.2019.05.023, IF = 2.929
6. **Velazquez, J. J.**, Gorni, Mosa J., Mather, G. C, Serrano, A., Vila, M., Castro, G. R., Bravo, D., Balda, R. Fernandez, J., Duran, A., Castro Y., Transparent Sol-Gel Oxyfluoride Glass-Ceramics with High Crystalline Fraction and Study of RE Incorporation (2019) NANOMATERIALS, 9, 530, DOI: 10.3390/nano9040530, IF = 4.324
7. Cabral, A. A., Gorni, G., **Velazquez, J. J.**, Pascual, M. J., Duran, A., Fernandez, J., Balda, R., Phase-dependent emission of KLaF₄:Nd³⁺ nanocrystals in oxyfluoride glass-ceramics (2019) OPTICAL COMPONENTS AND MATERIALS XVI, Proceedings of SPIE, 10914, DOI: 10.1117/12.2507266

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B. PROFESSIONAL ACTIVITIES

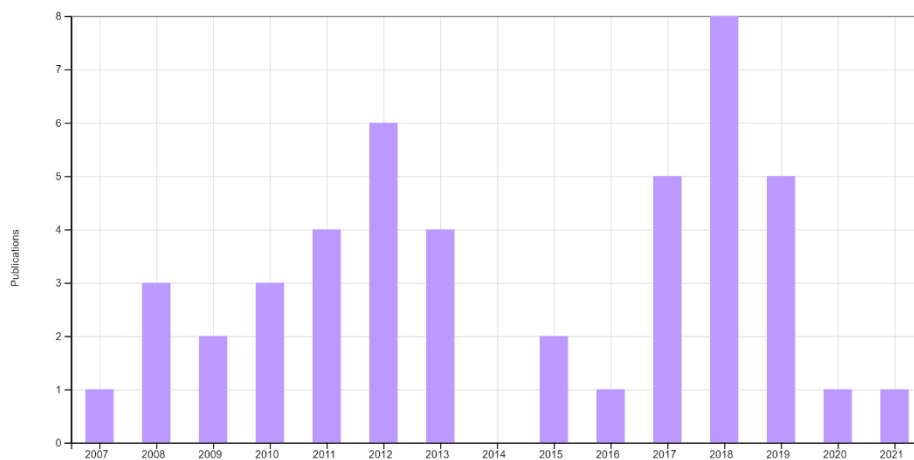
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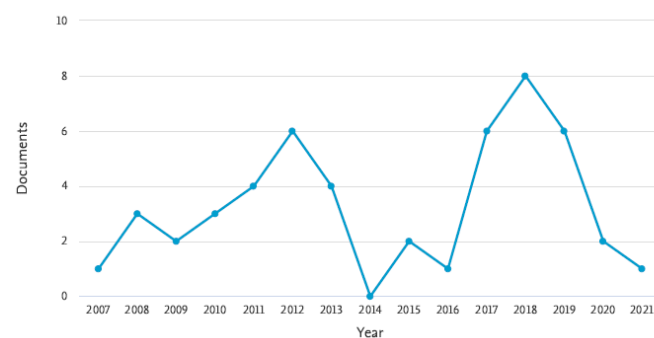
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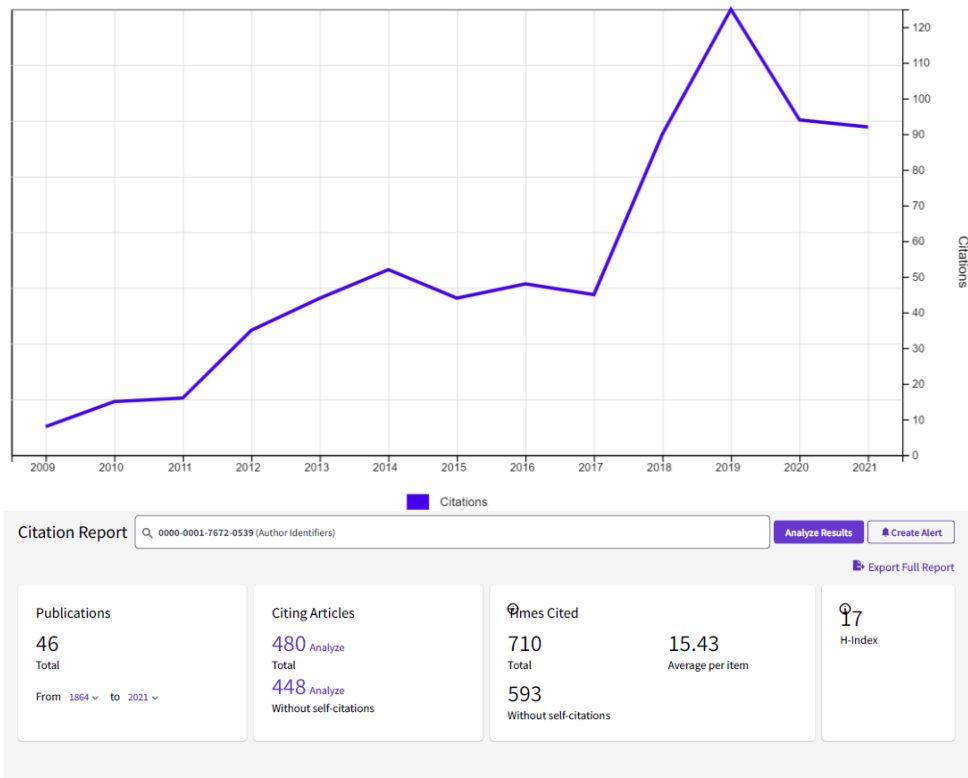
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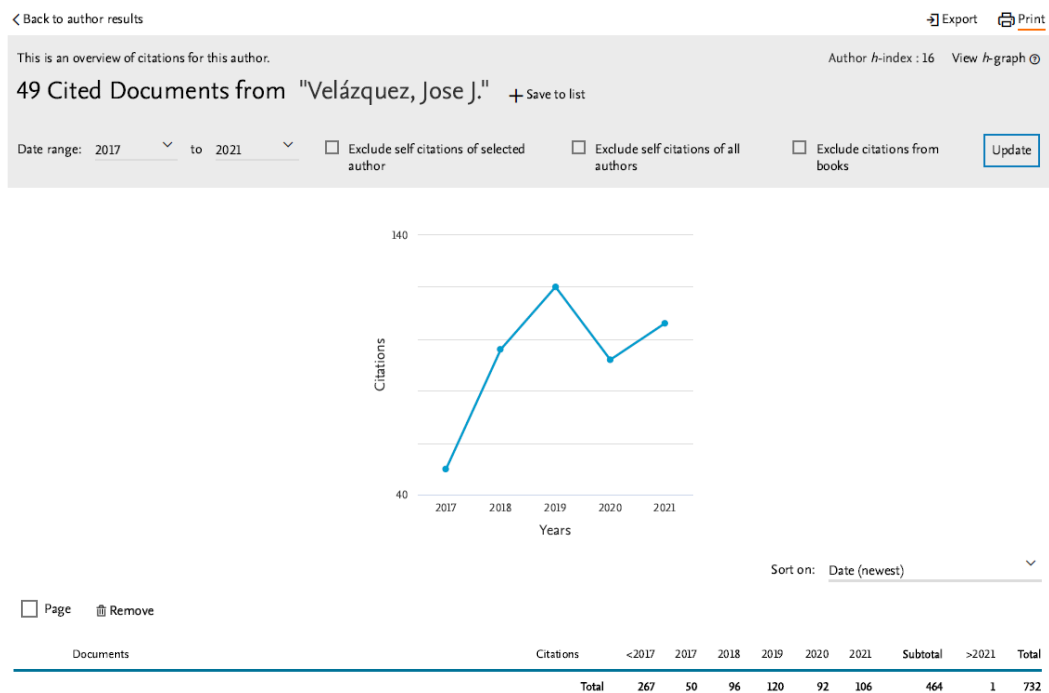
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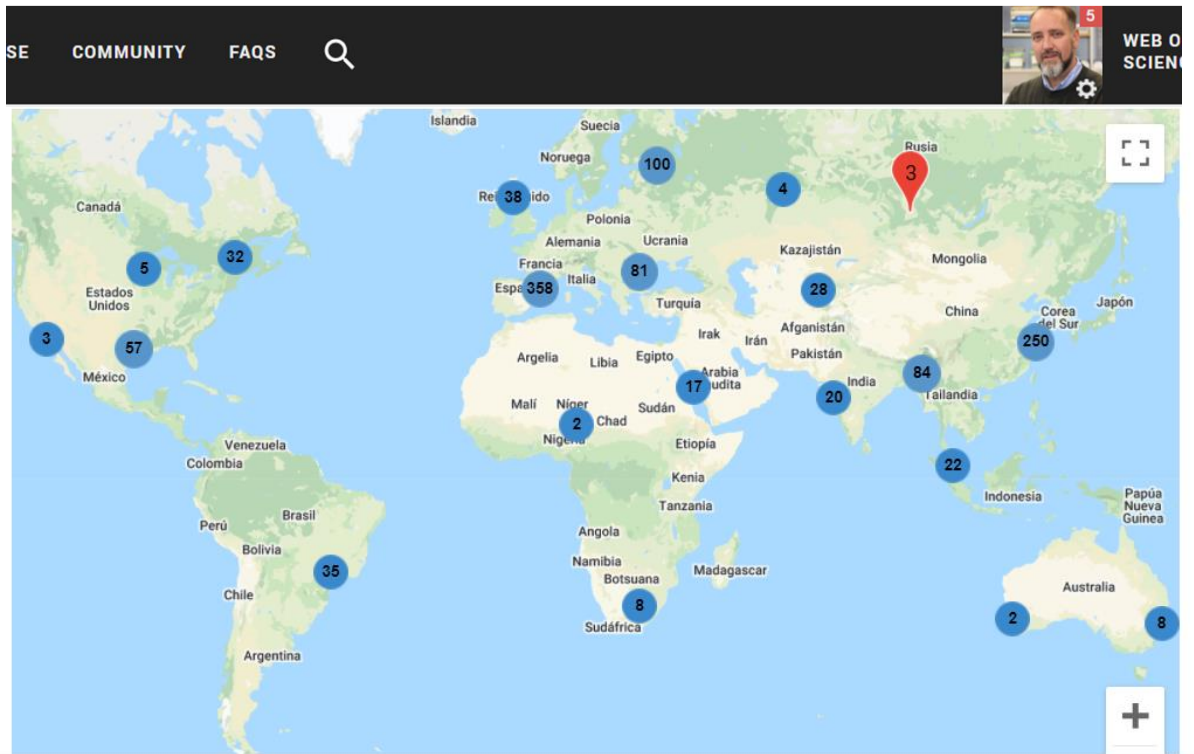


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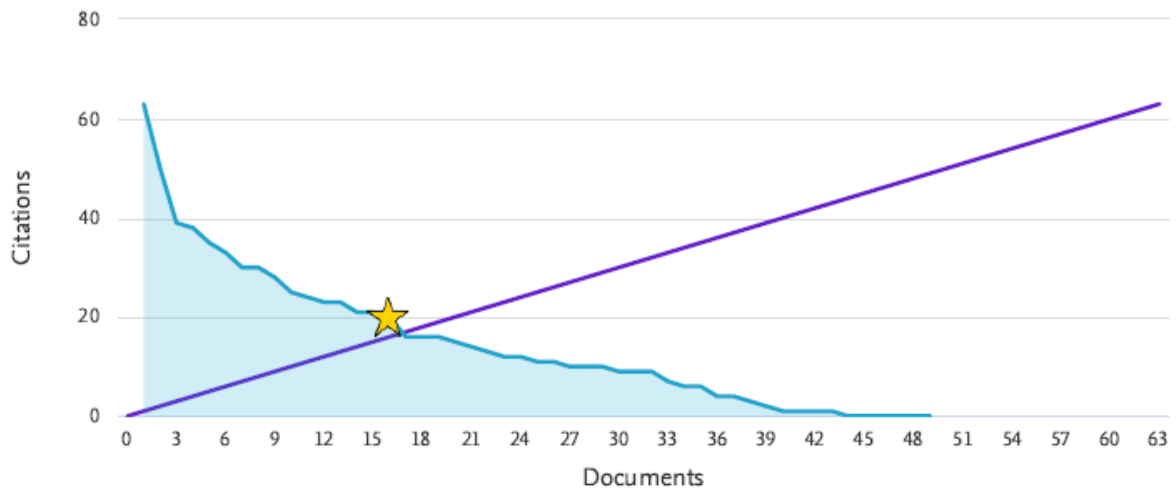


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| City | Date | Name and Title |
|---------|------------|-----------------------------------|
| Trencin | 24.11.2021 | Dr. Jose Joaquín Velázquez García |

C. PROJECT ACTIVITIES

1. Name of the project: Novel binary semiconductor-based materials for Sustainable and clean energy: from synthesis to H₂ generation. (VEGA 1/0844/21) FunGlass – Centre for Functional and Surface Functionalized Glass, Alexander Dubček University of Trenčín, Trenčín, Slovakia. Funding entity: The Slovak Research and Development Agency- Start-End date: 01/07/2021-30/06/2025. Main coordinator
2. Name of the project: Development and support of research and development activities of the center for Quality Testing and Diagnostics of Materials in the areas of specialization RIS3 SK (CEDITEK II)-FunGlass – Centre for Functional and Surface Functionalized Glass, Alexander Dubček University of Trenčín, Trenčín, Slovakia. Activity: H₂-Functional and surface-functionalized materials with high added value Funding entity: The Slovak Research and Development Agency-ERF Start-End date: 01/07/2020 - 30/06/2022. Member of research team
3. Name of the project: Centre for Functional and Surface Functionalized Glass (CEGLASS), project code 313011R453-FunGlass – Centre for Functional and Surface Functionalized Glass, Alexander Dubček University of Trenčín, Trenčín, Slovakia Funding entity: The Slovak Research and Development Agency-ERF. Start-End date: 01/04/2019 - 30/06/2023. Member of research team
4. Name of the project: The relationship between composition, structure and properties of inorganic-organic nanocomposite films for protection of materials (VEGA 1-0431-18), FunGlass – Centre for Functional and Surface Functionalized Glass, Alexander Dubček University of Trenčín, Trenčín, Slovakia Funding entity: The Slovak Research and Development Agency Start-End date: 01/01/2018 - 31/12/2021. Member of research team
5. Name of the project: Centre for Functional and Surface Functionalized Glass (FUNGLASS), H2020-WIDESPREAD-2014-1-SGA-CSA Grant agreement: N°739566. FunGlass – Centre for Functional and Surface Functionalized Glass-Alexander Dubček University of Trenčín. Trenčín, Slovakia Funding entity: European commission, Horizon 2020 Start-End date: 01/2018 - 03/2024. Member of research team
6. Name of the project: High optical quality luminescent glass and glassceramics for photonic application (VITROPHOTONICS Q+, MAT2017-87035-C2-1-P). Instituto de Cerámica y Vidrio (ICV-CSIC). Madrid, Community of Madrid, Spain. Funding entity: Ministry of Science and Innovation Start-End date: 01/01/2018 - 31/12/2020. Member of research team
7. Name of the project: Structure and properties of nanocrystalline glass and glass-ceramic processed by fusion and by sol-gel (PIE CSIC-201560E003). Instituto de Cerámica y Vidrio. City of entity: Madrid, Community of Madrid, Spain. Funding entity: Consejo Superior de Investigaciones Científicas (CSIC). Funding entity: Ministry of Science and Innovation Start-End date: 01/01/2015 - 31/12/2020. Member of research team
8. Name of the project: Effect of processing on the structure and properties of glasses and glass-ceramics with photonic applications (VITROPHOTONICS, MAT2013-48246-C2-1/2-P). Instituto de Cerámica y Vidrio. Madrid, Community of Madrid, Spain. Funding entity: Ministry of Economy and Competitiveness Start-End date: 01/01/2014 - 31/12/2017. Member of research team

9. Name of the project: Hydrogen Production with Solar Energy via "Water Splitting". Universidad de La Laguna. City of entity: La Laguna, Canary Islands, Spain. Funding entity: Fundación Cajacanarias Start-End date: 01/01/2014 - 31/12/2016. Member of research team
10. Name of the project: Materials for sustainable and clean energy (MAT2013-42407-R). Universidad de La Laguna. La Laguna, Canary Islands, Spain. Funding entity: Ministry of Economy and Competitiveness. Start-End date: 01/01/2014 - 31/12/2016. Member of research team
11. Name of the project: Nanostructured luminescent materials for optimal use of solar energy in photovoltaic cells (MAT2009-12079). Universidad de La Laguna. La Laguna, Canary Islands, Spain. Funding entity: Ministerio de Ciencia e Innovación. Start-End date: 01/01/2010 - 31/12/2013. Member of research team
12. Name of the project: Improving efficiency photovoltaic cells by luminescent nanomaterials (PIL2260902). Universidad de La Laguna. La Laguna, Canary Islands, Spain. Funding entity or bodies: Gobierno de Canarias, Agencia Canaria de Investigación, innovación y Sociedad de La Información. Start-End date: 05/10/2009 - 04/10/2013. Member of research team
13. Name of the project: Luminescent nanostructure glass-ceramics: A possible new generation of integrated photonic devices (FIS2006-02980). Universidad de La Laguna. La Laguna, Canary Islands, Spain. Funding entity: Ministry of Science and Innovation. Start-End date: 01/10/2006 - 31/12/2009. Member of research team

| City | Date | Name and Title |
|---------|------------|-----------------------------------|
| Trencin | 24.11.2021 | Dr. Jose Joaquín Velázquez García |

V. SCIENTIFIC EDUCATION

PhD thesis

1. Dissertation topic: Multifunctional glass coatings by sol-gel for different application. Haritha Ajitha Haridasa, MSc. Co-supervisor: Dr. Jose Joaquin Velazquez Garcia, Dr. Yolanda Castro Martin. In progress. Starting date: 25.11.2019. state: On going

Master and Bachelor Thesis

1. Project title: Transparent nano-glass ceramics produced by sol-gel as bulk materials. Type of project: Final year project. Co-director of thesis: Jadra Mosa; Jose J. Velazquez; Yolanda Castro. Entity: Université de Rennes-IUT Saint-Brieuc. Student: Josselin BROUSTAL. Date of reading: 01/07/2017. Quality recognition: Yes
2. Project title: Revêtement nanostructuré transparent SiO₂/GdF₃ préparé par sol-gel avec des propriétés photoniques. Type of project: Final year project. Co-director of thesis: Jadra Mosa; Jose J. Velazquez. Entity: Université de Rennes-IUT Saint-Brieuc. Student: Marin Michel Date of reading: 28/06/2016. Quality recognition: Yes.
3. Project title: RE doped transparent oxyfluoride nano glassceramics obtained by melting for use in fibers. Type of project: Minor thesis. Co-director of thesis: Alicia Duran; Jose J. Velazquez; Giulio Gorni, Entity: Univ. IUT Saint-Brieuc Type of entity: University. City of entity: Rennes, France. Student: Malo Picaud. Date of reading: 16/06/2016

| City | Date | Name and Title |
|---------|------------|-----------------------------------|
| Trencin | 24.11.2021 | Dr. Jose Joaquín Velázquez García |

VI. OTHER PROFESSIONAL ACTIVITIES:

1. Member of the organizing committee of **Jornadas de Jovenes Investigadores del Instituto de Ceramica y Vidrio (2016-2017-2018)**. Type of activity: Divulcation activity. Convening entity: Instituto de Cerámica y Vidrio. Type of entity: State agency. City convening entity: Madrid, Community of Madrid, Spain
2. Member of the organizing committee of the **12th International Symposium on Crystallization in Glasses and Liquids (Crystallization 2017)**. Name of the society: Sociedad Española de Cerámica y Vidrio City affiliation entity: Madrid, Community of Madrid, Spain. Start date: Convening entity: SOCIEDAD ESPAÑOLA DE CERAMICA Y VIDRIO City convening entity: Segovia, Castile and León, Spain. Start-End date: 15/09/2016 - 13/09/2017
3. Guest Editor for journal Molecules (MDPI)
https://www.mdpi.com/journal/molecules/special_issues/Glass-Ceramic_Materials
4. Member of the EUROPEAN CERAMIC SOCIETY (ECERS). City affiliation entity: Mons, Belgium. Start date: 15/09/2016
5. Member of the Spanish society of Ceramic and Glass City (SECV). City affiliation entity: Madrid, Spain. Start date: 15/09/2016
6. Reviewer on different journals: Journal of Non-Crystalline Solids (7), Journal of Luminescence (2), Journal of the European Ceramic Society (1), Optical Materials (7), Optical Engineering (1), Journal of Alloys and Compounds (3), Journal of The American Ceramic Society (4), Boletin de la Sociedad Española de Ceramica y Vidrio (1), Electrochemical and Solid-State Letter (2), ICARUS (1)
7. Stages at international institutes:
 - a. Institute di Fotonica e Nanotecnologie (CNR-IFN), Trento, Autonomous Province of Trento, Italy Start-End date: 27/12/2012 - 26/02/2013
 - b. Institute for Nanoscale physics and Chemistry, Katholieke Universiteit Leuven, Leuven, Belgium. Start-End date: 04/09/2011-03/11/2011
 - c. Instituto de Cerámica y Vidrio (ICV-CSIC). Madrid, Community of Madrid, Spain. Start-End date: 01/05/2018-30/04/2019
8. Use of singular infrastructures:
 - a. GIXRD of Transparent oxyfluoride nano-glass-ceramics coatings: Crystallisation kinetics and Rare Earth ions effect. Entity: EUROPEAN SYNCHROTRON RADIATION FACILITY (ESRF), Grenoble, France 21/04/2017

b. XANES and EXAFS for analysis of Concentration and local environment of Rare Earth ions in transparent oxyfluoride nano-glass ceramics. Entity: EUROPEAN SYNCHROTRON RADIATION FACILITY (ESRF) Grenoble, France.21/04/2017

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DECLARATION

I declare that the information provided in this document is true.

Place, date, your full name with titles

| City | Date | Name and Title |
|-------------|-------------|-----------------------------------|
| Trencin | 24.11.2021 | Dr. Jose Joaquín Velázquez García |