



**Francisco Díaz Barrancas**

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Date of document: 08/11/2021

**v 1.4.3**

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## Summary of CV

This section describes briefly a summary of your career in science, academic and research; the main scientific and technological achievements and goals in your line of research in the medium -and long- term. It also includes other important aspects or peculiarities.

**Francisco Díaz-Barrancas** received the B.S degree in computer engineer in 2017 and the M.S degree in computer technologies research in 2018, both from the University of Extremadura (UEX), Mérida, Spain. He is currently working toward the Ph.D. degree in the visual appearance in virtual reality devices.

He is a Research Assistant at the University of Extremadura (UEX) in Spain. He has been involved in several projects related to application of hyperspectral and virtual reality techniques to measure the color performance of LED light sources.



## Francisco Díaz Barrancas

Surname(s): **Díaz Barrancas**  
Name: **Francisco**  
ORCID: **0000-0002-4930-4780**  
Date of birth: **01/07/1995**  
Gender: **Male**  
Nationality: **Spain**  
Country of birth: **Spain**  
Contact aut. region/reg.: **Extremadura**  
Email: **frdiaz@unex.es**  
Personal web page: **<https://francisco-diaz-barrancas.github.io/>**

### Current professional situation

**Employing entity:** Universidad de Extremadura    **Type of entity:** University  
**Department:** Expresión Gráfica, Centro Universitario de Mérida  
**Professional category:** Personal de Apoyo a la Investigación  
**City employing entity:** Merida, Extremadura, Spain  
**Email:** frdiaz@unex.es  
**Start date:** 01/10/2020  
**Type of contract:** Temporary employment contract    **Dedication regime:** Full time  
**Field of management activity:** University

### Previous positions and activities

	Employing entity	Professional category	Start date
	Universidad de Extremadura	Personal Científico e Investigador	19/10/2017

**Employing entity:** Universidad de Extremadura    **Type of entity:** University  
**Department:** Ingeniería en sistemas informáticos y telemáticos, Centro Universitario de Mérida  
**City employing entity:** Merida, Extremadura, Spain  
**Professional category:** Personal Científico e Investigador  
**Email:** frdiaz@unex.es  
**Start-End date:** 19/10/2017 - 31/08/2020    **Duration:** 2 years - 10 months - 13 days  
**Type of contract:** Temporary employment contract  
**Dedication regime:** Full time  
**Primary (UNESCO code):** 120317 - Informatics  
**Field of management activity:** University



## Education

### University education

#### 1st and 2nd cycle studies and pre-Bologna degrees

**1 University degree:** Higher degree

**Name of qualification:** Máster Universitario en Ingenierías y Arquitectura

**Degree awarding entity:** Universidad de Extremadura

**Type of entity:** University

**Date of qualification:** 20/06/2018

**Average mark:** Excellent

**2 University degree:** Graduado

**Name of qualification:** Grado en Ingeniería Informática en tecnologías de la información

**City degree awarding entity:** Mérida, Extremadura, Spain

**Degree awarding entity:** Universidad de Extremadura

**Type of entity:** University

**Date of qualification:** 22/06/2017

**Average mark:** Good

### Specialised, lifelong, technical, professional and refresher training (other than formal academic and healthcare studies)

**1 Training title:** GESTIÓN DE DESCRIPTORES Y BÚSQUEDA AVANZADA EN BASES DE DATOS

**Awarding entity:** Plan de formación de la UEX: SOFD

**End date:** 21/10/2021

**Duration in hours:** 12 hours

**2 Training title:** PRÁCTICAS DE COMUNICACIÓN EN LA EXPOSICIÓN DE TRABAJOS CIENTÍFICOS

**Awarding entity:** Plan de formación de la UEX: SOFD

**End date:** 02/09/2021

**Duration in hours:** 20 hours

**3 Training title:** CREACIÓN DE VÍDEO-PRESENTACIONES PARA PARTICIPAR EN CONGRESOS CON MODALIDAD ONLINE Y PARA USO DIDÁCTICO

**Awarding entity:** Plan de formación de la UEX: SOFD

**End date:** 17/06/2021

**Duration in hours:** 15 hours

**4 Training title:** EXPOSICIÓN ORAL DE TRABAJOS ACADÉMICOS Y CIENTÍFICOS

**Awarding entity:** Plan de formación de la UEX: SOFD

**End date:** 31/05/2021

**Duration in hours:** 15 hours

**5 Training title:** CVN: INTERCAMBIANDO DATOS ENTRE PLATAFORMAS Y BASES DE DATOS

**Awarding entity:** Plan de formación de la UEX: SOFD

**End date:** 21/05/2021

**Type of entity:** University

**Duration in hours:** 25 hours



- 6 Training title:** NORMATIVAS DE CONTRATACIÓN Y BOLSAS DE TRABAJO PDI LABORAL. SOLICITUD Y SU EVALUACIÓN  
**Awarding entity:** Plan de formación de la UEX: SOFD  
**End date:** 13/05/2021 **Duration in hours:** 10 hours
- 7 Training title:** LearnEnglish Select Santander- Select Intermediate Level (B1)  
**Awarding entity:** EMBAJADA DEL REINO UNIDO (BRITISH COUNCIL)  
**End date:** 13/02/2021 **Duration in hours:** 25 hours
- 8 Training title:** From Reality to Virtuality: The science and the art of creating VR experiences  
**Awarding entity:** University of Oulu **Type of entity:** University  
**End date:** 15/06/2019 **Duration in hours:** 40 hours
- 9 Type of training:** Course  
**Training title:** Introducción al desarrollo de videojuegos con Unity  
**City awarding entity:** Merida, Extremadura, Spain  
**Awarding entity:** Universidad de Extremadura **Type of entity:** University  
**End date:** 03/05/2019 **Duration in hours:** 40 hours
- 10 Training title:** eHealth: Tecnologías para la salud 2018  
**Awarding entity:** Instituto internacional de investigación e innovación del envejecimiento **Type of entity:** Healthcare Institutions  
**End date:** 12/09/2018 **Duration in hours:** 15 hours
- 11 Type of training:** Course  
**Training title:** Curso de Big Data y Supercomputación: "Transformando datos en conocimiento"  
**City awarding entity:** Cáceres, Extremadura, Spain  
**Awarding entity:** Computaex  
**End date:** 19/12/2016 **Duration in hours:** 23 hours

## Language skills

Language	Listening skills	Reading skills	Spoken interaction	Speaking skills	Writing skills
English	B1	B1	B1	B1	B1

## Teaching experience

### General teaching experience

**Name of the course:** Sistemas de Comunicación Multimedia  
**University degree:** Graduado o Graduada en Ingeniería de Diseño Industrial y Desarrollo de Productos  
**Start date:** 01/02/2020 **End date:** 14/05/2020  
**Entity:** Centro Universitario de Mérida **Type of entity:** University Centres and Structures and Associated Bodies  
**Faculty, institute or centre:** Centro Universitario de Mérida



## Scientific and technological experience

### Research and development groups/teams

**Name of the group:** Grupo Orión

**Aims of the group:** Virtual reality, Extended reality, Color appearance

**Type of collaboration:** Co-authorship of projects and their development

**Affiliation entity:** Universidad de Extremadura

**Type of entity:** University

**Start date:** 19/10/2017

### Scientific or technological activities

#### R&D projects funded through competitive calls of public or private entities

**Name of the project:** Aplicación de técnicas hiperespectrales y de realidad virtual a la medida del rendimiento de color de fuentes luminosas LED

**Entity where project took place:** Universidad de Extremadura

**Type of entity:** University

**Name principal investigator (PI, Co-PI....):** Pedro José Pardo

**Nº of researchers:** 6

**Funding entity or bodies:**

Consejería de Economía e Innovación Tecnológica

**Type of entity:** IB16004

**Start-End date:** 16/01/2018 - 08/11/2020

**Total amount:** 115.261,3 €

#### R&D non-competitive contracts, agreements or projects with public or private entities

**Name of the project:** PROYECTOS Y AYUDAS PLAN REGIONAL

**Degree of contribution:** Researcher

**Name principal investigator (PI, Co-PI....):** María Isabel Suero

**Nº of researchers:** 10

**Funding entity or bodies:**

Consejería de Economía e Innovación Tecnológica

**Type of entity:** GR18131

**Start date:** 29/05/2018

**Total amount:** 26.360,25 €



## Scientific and technological activities

### Scientific production

#### Publications, scientific and technical documents

- 1** Halina Cwierz; Francisco Díaz Barrancas; Julia Gil Llinás; Pedro José Pardo. On the Validity of Virtual Reality Applications for Professional Use: A Case Study on Color Vision Research and Diagnosis. IEEE Access. 9, pp. 138215 - 138224. IEEE, 06/10/2021.  
**Type of production:** Scientific paper **Format:** Journal  
**Corresponding author:** Yes
- 2** Francisco Díaz Barrancas; Halina Carmen Cwierz; Pedro José Pardo; Ángel Luis Pérez; María Isabel Suero. Colour appearance in immersive three-dimensional virtual environments. Coloration Technology. 137, pp. 38 - 43. Wiley, 14/12/2020.  
**Type of production:** Scientific paper **Format:** Journal  
**Corresponding author:** Yes
- 3** Francisco Díaz Barrancas; Halina Carmen Cwierz; Pedro José Pardo; Ángel Luis Pérez; María Isabel Suero. Spectral Color Management in Virtual Reality Scenes. Sensors. 20 - 19, pp. 5658. MDPI, 03/10/2020.  
**Type of production:** Scientific paper **Format:** Journal  
**Corresponding author:** Yes

#### Works submitted to national or international conferences

- 1** **Title of the work:** A study of physical and perceived linearity in a virtual reality environment  
**Name of the conference:** International Colour Association (AIC) Conference 2021  
**Corresponding author:** Yes  
**City of event:** Milán, Lombardia, Italy  
**Date of event:** 01/09/2021  
**End date:** 03/09/2021  
**Organising entity:** International Colour Association  
Francisco Díaz Barrancas; Halina Cwierz; Pedro José Pardo.
- 2** **Title of the work:** Color Constancy in virtual reality scenes. A first step toward a color appearance model in virtual reality  
**Name of the conference:** International Colour Association (AIC) Conference 2021  
**Corresponding author:** No  
**City of event:** Milán, Lombardia, Italy  
**Date of event:** 01/09/2021  
**End date:** 03/09/2021  
**Organising entity:** International Colour Association  
Pedro José Pardo; Francisco Díaz Barrancas; Halina Cwierz.
- 3** **Title of the work:** Application of spectral computing technics for color vision testing using virtual reality devices  
**Name of the conference:** Electronic Imaging





**Type of event:** Conference

**Geographical area:** Non EU International

**Corresponding author:** Yes

**City of event:** Burlingame, United States of America

**Date of event:** 26/01/2020

**End date:** 30/01/2020

**Organising entity:** Society for Imaging Science and Technology

**Type of contribution:** Scientific paper

Halina Carmen Cwierz; Francisco Díaz Barrancas; Pedro José Pardo; Ángel Luis Pérez; María Isabel Suero.

- 4 Title of the work:** Visual fidelity improvement in virtual reality through spectral textures applied to lighting simulations

**Name of the conference:** Electronic Imaging

**Type of event:** Conference

**Geographical area:** Non EU International

**Corresponding author:** Yes

**City of event:** Burlingame, United States of America

**Date of event:** 26/01/2020

**End date:** 30/01/2020

**Organising entity:** Society for Imaging Science and Technology

**Type of contribution:** Scientific paper

Francisco Díaz Barrancas; Halina Carmen Cwierz; Pedro José Pardo; Ángel Luis Pérez; María Isabel Suero.

- 5 Title of the work:** A virtual scene with conservation objects with different illuminants and colour management

**Name of the conference:** A conservation Carol: approcci interdisciplinari nell'ambito della conservazione dei beni culturali

**Type of event:** Conference

**Geographical area:** European Union

**Corresponding author:** Yes

**City of event:** Milano, Lombardia, Italy

**Date of event:** 20/12/2019

**Organising entity:** Università degli studi di Milano

**Type of contribution:** Scientific paper

Francisco Díaz Barrancas; Halina Carmen Cwierz; Pedro José Pardo; Ángel Luis Pérez; María Isabel Suero.

- 6 Title of the work:** Aplicación de texturas hiperespectrales a objetos 3D en escenas de Realidad Virtual

**Name of the conference:** XII Congreso Nacional del Color

**Type of event:** Conference

**Geographical area:** National

**Corresponding author:** Yes

**City of event:** Linares, Andalusia, Spain

**Date of event:** 25/09/2019

**End date:** 27/09/2019

**Organising entity:** SOCIEDAD ESPAÑOLA DE OPTICA SEDO

**Type of contribution:** Scientific paper

Francisco Díaz Barrancas; Halina Carmen Cwierz; Pedro José Pardo; Ángel Luis Pérez; María Isabel Suero.

- 7 Title of the work:** Cómo realizar una correcta gestión del color en sistemas de realidad virtual

**Name of the conference:** XII Congreso Nacional del Color

**Type of event:** Conference

**Geographical area:** National

**City of event:** Linares, Andalusia, Spain





**Date of event:** 25/09/2019

**End date:** 27/09/2019

**Organising entity:** SOCIEDAD ESPAÑOLA DE OPTICA SEDO

**Type of contribution:** Scientific paper

Halina Carmen Cwierz; Francisco Díaz Barrancas; Pedro José Pardo; Ángel Luis Pérez; María Isabel Suero.

- 8 Title of the work:** Herramienta para la valoración de la capacidad de discriminación del color de observadores normales y defectivos mediante un test de ordenación de color, reproducido en un entorno de realidad virtual

**Name of the conference:** XII Congreso Nacional del Color

**Type of event:** Conference

**Geographical area:** National

**Corresponding author:** No

**City of event:** Linares, Andalusia, Spain

**Date of event:** 25/09/2019

**End date:** 27/09/2019

**Organising entity:** SOCIEDAD ESPAÑOLA DE OPTICA SEDO

**Type of contribution:** Scientific paper

Halina Carmen Cwierz; Francisco Díaz Barrancas; Pedro José Pardo; Ángel Luis Pérez; María Isabel Suero.

- 9 Title of the work:** Reconstrucción de objetos 3D mediante técnicas SFM y obtención de texturas hiperespectrales

**Name of the conference:** XII Congreso Nacional del Color

**Type of event:** Conference

**Geographical area:** National

**Corresponding author:** Yes

**City of event:** Linares, Andalusia, Spain

**Date of event:** 25/09/2019

**End date:** 27/09/2019

**Organising entity:** SOCIEDAD ESPAÑOLA DE OPTICA SEDO

**Type of contribution:** Scientific paper

Francisco Díaz Barrancas; Halina Carmen Cwierz; Pedro José Pardo; Ángel Luis Pérez; María Isabel Suero.

- 10 Title of the work:** Hyperspectral textures for a better colour reproduction in virtual reality

**Name of the conference:** 15th Conferenza del Colore

**Type of event:** Conference

**Geographical area:** European Union

**Corresponding author:** Yes

**City of event:** Macerata, Marche, Italy

**Date of event:** 05/09/2019

**End date:** 07/09/2019

**Organising entity:** Gruppo del Colore – Associazione Italiana Colore

**Type of contribution:** Scientific paper

Francisco Díaz Barrancas; Halina Carmen Cwierz; Pedro José Pardo; Ángel Luis Pérez; María Isabel Suero.

- 11 Title of the work:** Improvement of realism sensation in virtual reality scenes applying spectral and colour management techniques

**Name of the conference:** The 25th Symposium of the International Colour Vision Society

**Type of event:** Conference

**Geographical area:** European Union

**Corresponding author:** Yes

**City of event:** Riga, Latvija, Latvia



**Date of event:** 05/07/2019

**End date:** 08/07/2019

**Organising entity:** International Colour Vision Society

**Type of contribution:** Scientific paper

Francisco Díaz Barrancas; Halina Cwierz; Pedro José Pardo; Ángel Luis Pérez; María Isabel Suero.

**12 Title of the work:** Validity of virtual-reality-based systems applied to lighting and colour rendering research

**Name of the conference:** The 25th Symposium of the International Colour Vision Society

**Type of event:** Conference

**Geographical area:** European Union

**Corresponding author:** No

**City of event:** Riga, Latvija, Latvia

**Date of event:** 05/07/2019

**End date:** 08/07/2019

**Organising entity:** International Colour Vision Society

**Type of contribution:** Scientific paper

Pedro José Pardo; Halina Cwierz; Francisco Díaz Barrancas; Ángel Luis Pérez; María Isabel Suero.

**13 Title of the work:** IMPROVING PROGRAMMING LEARNING WITH AUGMENTED REALITY AND GAMIFICATION

**Name of the conference:** EDULEARN 2019

**Type of event:** Conference

**Geographical area:** National

**Corresponding author:** No

**City of event:** Palma de Mallorca, Balearic Islands, Spain

**Date of event:** 01/07/2019

**End date:** 03/07/2019

**Organising entity:** IATED

**Type of contribution:** Scientific paper

Halina Cwierz; Francisco Díaz Barrancas; Pedro José Pardo; Juan Ignacio Guisado; Cristina Ruiz Palma.

**14 Title of the work:** Un análisis preliminar de nuevos modelos de mutación dirigida en algoritmos genéticos.

**Name of the conference:** XVIII Conferencia de la Asociación Española para la Inteligencia Artificial

**Type of event:** Conference

**Geographical area:** National

**Corresponding author:** No

**City of event:** Granada, Andalusia, Spain

**Date of event:** 23/10/2018

**End date:** 26/10/2018

**Organising entity:** Asociación Española para la Inteligencia Artificial

**Type of contribution:** Scientific paper

Borja Rodríguez Puerta; Francisco Díaz Barrancas; Francisco Chávez De la O; Francisco Fernández de Vega.

**15 Title of the work:** Colour Management in Virtual Reality applied to Lighting Simulations

**Name of the conference:** International Colour Association (AIC) Conference 2018

**Type of event:** Conference

**Geographical area:** European Union

**Corresponding author:** No

**City of event:** Lisboa, Lisboa, Portugal

**Date of event:** 25/09/2018

**End date:** 29/09/2018

**Organising entity:** International Colour Association

**Type of contribution:** Scientific paper

Halina Cwierz; Francisco Díaz Barrancas; Pedro José Pardo; Ángel Luis Pérez; María Isabel Suero.



- 16** **Title of the work:** Is it possible to apply colour management technics in Virtual Reality devices?  
**Name of the conference:** 14th Conferenza del Colore  
**Type of event:** Conference **Geographical area:** European Union  
**Corresponding author:** Yes  
**City of event:** Firenze, Toscana, Italy  
**Date of event:** 11/09/2018  
**End date:** 12/09/2018  
**Organising entity:** Grupo del Color- Asociación Italiana del Color **Type of entity:** Associations and Groups  
**Type of contribution:** Scientific paper  
Francisco Díaz Barrancas; Pedro José Pardo; María Isabel Suero; Ángel Luis Pérez.

### Other dissemination activities

- 1** **Title of the work:** III Semana de la ciencia y la Tecnología en Extremadura  
**Name of the event:** Reto de Ada Byron  
**Type of event:** Fairs and exhibitions  
**City of event:** Mérida, Extremadura, Spain  
**Date of event:** 15/11/2019  
**Organising entity:** Servicio de difusión de la cultura científica
- 2** **Title of the work:** European Researcher ´Night  
**Name of the event:** Noche de los investigadores 2019  
**Type of event:** Fairs and exhibitions  
**City of event:** Mérida, Extremadura, Spain  
**Date of event:** 27/09/2019  
**Organising entity:** Universidad de Extremadura **Type of entity:** University
- 3** **Title of the work:** European Researchers ´Night  
**Name of the event:** Noche de los investigadores 2018  
**Type of event:** Fairs and exhibitions  
**City of event:** Mérida, Extremadura, Spain  
**Date of event:** 12/09/2018  
**Organising entity:** Universidad de Extremadura **Type of entity:** University
- 4** **Title of the work:** European Researchers´Night  
**Name of the event:** Noche de los investigadores 2015  
**Type of event:** Fairs and exhibitions  
**City of event:** Mérida, Extremadura, Spain  
**Date of event:** 11/11/2015  
**Organising entity:** Universidad de Extremadura **Type of entity:** University



## R&D management and participation in scientific committees

### Evaluation and revision of R&D projects and articles

**Name of the activity:** Review

**Performed tasks:** Review article

**Entity where activity was carried out:** Journal of the Optical Society of America A

**Type of entity:** Associations and Groups

**Start date:** 27/01/2021

## Other achievements

### Stays in public or private R&D centres

- Entity:** Università Degli Studi di Milano  
**Faculty, institute or centre:** Dipartimento di Informatica  
**City of entity:** Milano, Lombardia, Italy  
**Start-End date:** 01/10/2019 - 20/12/2019 **Duration:** 3 months  
**Goals of the stay:** Doctorate  
**Provable tasks:** Research stay
- Entity:** University of Granada **Type of entity:** University  
**Faculty, institute or centre:** Ciencias de la Educación  
**City of entity:** Granada, Andalusia, Spain  
**Start-End date:** 01/07/2017 - 31/07/2017 **Duration:** 1 month  
**Goals of the stay:** Guest  
**Provable tasks:** Research stay

### Prizes, mentions and distinctions

- Description:** Programa Santander Yuzz 'Jóvenes con ideas'  
**Awarding entity:** BANCO SANTANDER, S.A.  
**City awarding entity:** Almendralejo, Extremadura, Spain  
**Conferral date:** 20/06/2020
- Description:** Best Poster Award 2018  
**Awarding entity:** Gruppo del Colore- Associazione Italiana Colore **Type of entity:** Associations and Groups  
**City awarding entity:** Firenze, Toscana, Italy  
**Conferral date:** 12/09/2018
- Description:** III Convocatoria Premios Investigar en Ciencias  
**Awarding entity:** Universidad de Extremadura **Type of entity:** University  
**City awarding entity:** Badajoz, Extremadura, Spain  
**Conferral date:** 19/02/2013