25th June 2025

Poster Session P01 11:30h - 18:30h [12:10h and 15:10h]*

***Authors are required to be present beside their poster at 12:10 PM and 3:10 PM**

GRAPHICAL ENGINEERING IN SUPERIOR EDUCATION

25-1

Evaluating the integration of artificial intelligent tools in graphical engineering courses

Diego-José Guerrero-Miguel, María-Belén Prendes-Gero, Ruth Fernández García, Marta Menéndez Fernández, Rafael Rodríguez-Galindo Díez, Pablo Pando Cerra

25-2

Graphical expression in engineering: implementation of pbl and 3d printing as innovative pedagogical tools

Idoia San Sebastian , Gaizka Erkizia, Eva Rodriguez , Maider Iturrondobeitia

25-3

Integrating cedg into descriptive geometry education: effects on academic performance

Laura García-Ruesgas, Manuel Prado-Velasco

25-4

An educational innovation project: learn to communicate with maps

Carmen Marín , Victor Cicuéndez, Mateo Pastrana, Alfonso Gómez, Cristina Velilla

METHODOLOGIES AND STRATEGIES BASED ON GRAPHICAL ENGINEERING

25-5

A graphical method for determining the optimal position of the rtg carriage for dismantling by lowering optimal centroid.

Raquel Gómez Cabrera, Juan Jesús Lara Sánchez

25-6

Graphical techniques applied to the evaluation of animal movement

José Manuel Valderrama-Zafra, Raúl Torres-Román, Antonia Oya-Lechuga

25-7

Flat patterns of general developable ruled surfaces in cedg

Manuel Prado-Velasco, Laura García-Ruesgas

DIGITAL TOOLS AND ARTIFICIAL INTELLIGENCE

25-8

Assessing the current use of isolated buildings in andalusia through ai techniques

Cristina Torrecillas, Francisco J. Ramos-Sánchez, Natalia Martinez-Gómez

25-9

Innovating creativity: the role of generative artificial intelligence in graphic design education

Mikki Schindler

25-10

Data-driven approaches in engineering visualization for sustainable optimization of advanced construction materials

Patricia Abril-Jiménez, Lucía Garijo Alonso, Sofía Sánchez-Mateo

25-11

Spatial data analysis towards achieving an artificial access consciousness (aac) using knowledge graphs (kg), large language models (llm), and graph-driven reasoning (gdr)

Javier Arévalo, Juan I Latorre, Francisco J Flor, Eduardo Martínez

25-12

Reframing urban morphology for ai. integrating qualitative datasets for specialized artificial intelligence.

Caterina Juric, Ezgi Nur Güngör, Alessandro Lovisolo

25-13

Advanced analysis of sashimono: a traditional japanese woodworking technique

Jose-Andres Diaz-Severiano, Valentin Gomez-Jauregui, Noemi Barral-Ramon

25-14

Generative artificial intelligence applied to the parametric drawing of floor plans. origins, evolution and current state.

Fernando Vilaplana Universidad de Sevilla, Sevilla, Spain

MANAGEMENT OF PRODUCTS AND PROCESSES

25-15

Modeling and digital fabrication of the f50 sailgp catamaran using catia v5 and fdm technology

José Serrano Gómez, Manuel Morato-Moreno

25-16

From ux to design for wellbeing: which research is needed to develop pleasing products

Aurora Berni, Yuri Borgianni

25-17

Sustainable design using technical-functional and socio-collaborative tools

Irene Ramos Lapesa, José Luis Santolaya Sáenz, Anna Biedermann, Natalia Muñoz López

25-18

Use of finite elements to verify the aptitude of the iberian falcata for combat

Emilio Ramírez-Juidias

25-19

Fabrication of an additive manufactured mold for the production of a drone engine cover using the infusion composites process

Clara Luna Martin Compaired, Ramon Miralbes, David Ranz, Jose Antonio Gomez

25-20

Assessing the sustainability of a childcare service in a rural area of zaragoza (spain)

Laura Diago Ferrer, Jose Luis Santolaya Sáenz, Natalia Muñoz López

25-21

Guidelines for the successful design of products with environmental certifications

Lesly Sierra-Fontalvo, **Yuri Borgianni** , Aurora Berni , Laura Ruiz-Pastor

25-22

Optimization of printing parameters for a ceramic-adapted 3d printer

Ana Pilar Valerga Puerta, Elena Cabrera-Revuelta, Nicolás Morales Blanco

25-23

Integration of smart products into product lifecycle management (plm): strategies for data capture and modeling

Teresa Ramos-Calderón, Mª Jesús Ávila-Gutiérrez, Juan Ramón Lama-Ruiz

TOOLS AND METHODOLOGIES FOR MANAGEMENT AND ANALYSIS OF SPATIAL DATA

25-24

Modelling of historical buildings using 3d gis: the defensive wall of seville as a representative case study.

Francisco M. Hidalgo-Sánchez, David Rubia-Caba, Emilio J. Mascort-Albea, Margarita Infante-Perea, Lorenzo Rodríguez-Ramírez.

25-25

Urbanization and circularity: analyzing the role of urban growth in seville's circular economy transition

Nadia Falah, Navid Falah, Jaime Solis-Guzman, Madelyn Marrero

25-26

Methodology for comparing the sustainability of different renewal models applied in retail spaces

Aranzazu Fernández-Vázquez, Anna Maria Biedermann, Natalia Muñoz López, José Luis Santolaya Sáenz

25-27

Critical comparison between professional scanner and 3d scanning mobile application

Marta Torres González, **Margarita Infante Perea**, Concepción Cantillana Merchante, José Carlos Galán Jiménez, Miguel León Muñoz

25-28

Preserving the legacy: sfm-based photogrammetric reconstruction of the industrial olive oil heritage at hacienda de quinto.

Carmen Marín Buzón, Antonio Miguel Pérez Romero, Manuel José León Bonillo, Orly Enrique Apolo

25-29

Machine learning-based classification of public works using user positioning data from gnss correction services

Francisco J Ramos-Sánchez, Cristian Nieto Pareja, Cristina Torrecillas

26th June 2025

Poster Session P02 11h - 17h [11:40h and 15:10h]*

***Authors are required to be present beside their poster at 11:40 AM and 3:10 PM**

GRAPHICAL ENGINEERING IN SUPERIOR EDUCATION

26-1

"smart heartbeats". a student project developed within the framework of multidisciplinary teaching

Luis Taroncher, Aitana Vanaclocha, Ana García, Alejandro Rodríguez-Ortega, Sandra Munera

26-2

Learning to teaching industrial drawing: comparison with traditional methods

Diego Francisco García-Molina, **Juan Manuel Montalvo-Gil**, Daniel Díaz-Perete, Eduardo Bonet-Martínez, Francisco Javier Carrasco-Vila, Bartolomé Carrasco-Hurtado

26-3

Graphical expression in civil engineering degrees: content and methodologies

Pedro Lastra-González, Borja Arroyo Martínez, Cristina Manchado, César Otero

METHODOLOGIES AND STRATEGIES BASED ON GRAPHICAL ENGINEERING

26-4

3d geometric and visual modeling applied to organic morphologies.

Carmelo López, Alberto Cobos, Juan Antonio Peña , Sergio Sánchez-Fenollosa

26-5

Design, geometric optimization and generative design and prototyping of a bicycle stem using three software

Gaizka Erkizia, Xabier Amezua, Mikel Iturrate, Mikel Jauregi, Olatz Etxaniz, Xabier Garikano, Eneko Solaberrieta

26-6

Comparative of estimation of crown volume of fruit trees by traditional methods and terrestrial lidar.

Manuel José León Bonillo, Antonio Miguel Pérez Romero, Rubén Martínez Álvarez, Marta Díaz Vega, Carmen Marín Buzón

DIGITAL TOOLS AND ARTIFICIAL INTELLIGENCE

26-7

Unlocking ai's creative potential in climate-responsive architectural design

Jose Carlos Lopez Cervantes, Cintya Eva Sanchez Morales

26-8

An analysis of the temporal consistency of the user's opinion about product design attributes: a case study with household products

Carlos García-García, Almudena Palacios-Ibáñez, Julia Galán, Francisco Felip-Miralles, Manuel Contero

26-9

From hand-drawn to ai-enhanced: assessing the impact of ai in sketch development

Sergio De La Rosa Silva, Miguel-Angel Pardo-Vicente, Pedro F. Mayuet, Lucía Rodríguez-Parada

26-10

Ai for automated processes in cad: from the origins to the latest trends in the area and how to apply it in the cad lessons.

Eva Rodríguez Hortelano, Maider Iturrondobeitia Ellacuria

26-11

Design, modeling, and optimization of a biomechanical finger for a pediatric prosthetic hand

Pablo Medina-Coello, Blas Salvador-Domínguez, Ignacio Diaz-Cano, Rogelio Del Pino Algarra, Arturo Morgado-Estevez

26-12

Digital twins models applied to cxl treatments of corneas affected with keratoconus.

Jose González, Carmelo Gómez, Francisco Cavas

26-13

Discrepancies in corneal material parameter estimation: comparing tensile and inflation tests in biomechanical modeling

José González Cabrero, Carmelo Gómez, Francisco Cavas

26-14

Design of wearable telecare devices for older adults: emotional, social, and cognitive challenges

Eva Tausiet, Roberto Casas, Teresa Blanco

MANAGEMENT OF PRODUCTS AND PROCESSES

26-15

Conceptual design of a collaborative nesting system for shipbuilding.

Pablo Morato-Huerta, Juan Ramón Lama-Ruiz, Alejandro Manuel Martín-Gómez

26-16

A more sustainable scooter approach using natural composite materials.

David Ranz, Clara Luna Martín, Carmelo Pina, Ramón Miralbes, Marcin Barburski, José Antonio Gómez

26-17

Advanced design of non-pneumatic wheels for wheelchairs: simulation and manufacturing with 3d technologies

Bernardo Pajares Moreno, Maria Moncho, Guillermo Peris, Ismael Lengua, Beatriz Defez, David Diaz

26-18

Transforming andalusia's industrial sector through eco-design: new timber construction systems for multy-storey buildings

Antonio Jesús Rodríguez Pérez, Antonlino Gallego Molina, Lázuli Fernández Lobato, Juan Franquelo Soler

26-19

Design and implementation of a 3d-printed outlet cover for an open turbine in irrigation systems

Antonio Garcia Chica, Julio Jose Caparroz Mancera, Angel Mariano Rodríguez Perez, Cesar Antonio Rodríguez González

26-20

Mechanical characterization of compression-molded discontinuous carbon fiber/epoxy composites

Javier Martín Domínguez, Patricia Mora Segado, Guillermo Plaza García

26-21

Comparison of photosensitive resins and filaments for additive 3d printing of orthopedic devices

Elena Arce, Rosa Devesa-Rey, Roi Painceira-Villar, Raquel Leirós-Rodríguez, Bibiana Trevissón-Redondo, Ana García-Diez

TOOLS AND METHODOLOGIES FOR MANAGEMENT AND ANALYSIS OF SPATIAL DATA

26-22

The canal de castilla in the 21st century: conservation challenges and development opportunities

Angel Mariano Rodriguez Perez, Julio Jose Caparros Mancera, Antonio Garcia Chica, Lucia Olmo Rodriguez, Cesar Antonio Rodriguez Gonzalez

26-23

Development of an application for visual exploration of hyperspectral images

Sandra Munera, Francisco Albert, Alejandro Rodríguez-Ortega, Jose Blasco, Nuria Aleixos

26-24

Geostatistical approaches for the estimation and validation of air pollution forecasting maps

María Inmaculada Rodríguez-García , María Gema Carrasco-García, Maria Da Conceiçao Rodrigues Ribeiro, Alberto Camarero Orive, Francisco Javier González-Enrique, Ignacio J. Turias Domínguez

26-25

Tree volume calculation through in-field photogrammetry for estimating growth evolution

Alejandro Rodríguez-Ortega, Beatriz Rey, Sergio Cubero, Ana Quiñones, Sandra Munera, Francisco Albert, Luis Taroncher, Jose Blasco, Nuria Aleixos

26-26

Uncertainty of 3d modelling of an overhead power line using a geographic information system

Laia Miravet Garret

26-27

3d indoor evacuation plans from point clouds for visually impaired people.

Lucía Díaz Vilariño, Rubén Fernández Abeijón, Jesús Balado, Jose Antonio Alonso Rodríguez, Jose Luis González Cespón

26-28

Using lidar to model 3d tree structures and to estimate tree metrics in almond crops

Mateo Pastrana, Victor Cicuéndez, **Cristina Velilla**, Carmen Marín, Alfonso Gómez

26-29

Gis-ahp based study of a power generation plant in the province of huelva (spain)

José-Lázaro Amaro-Mellado, Gerard Paulet-Alòs

MISCELLANY

26-30

Digitisation and geometry of the arches of the new bridge of ronda: comparative morphological analysis with other historic bridges and aqueducts

Daniel Torres-Blanco, M. Carmen Ladrón-De-Guevara-Muñoz, Rafael Enrique Hidalgo Fernández

27th June 2025

Poster Session P03 9h - 14h [9:10h and 11:40h]*

***Authors are required to be present beside their poster at 9:10 AM and 11:40 AM**

GRAPHICAL ENGINEERING IN SUPERIOR EDUCATION

27-1
Functional dimensioning based on a 3d nominal model
M Ángeles Esandi-Baztan, Antonio Valin, Fernando Brusola

27-2
Application of multiple simultaneous methodologies in the realisation of cad practices.
Rocío Rodríguez, Rubén Rodríguez, Juan Fernández, Manuel Pablo Rubio, Pedro Hernández

27-3
Support of 3d printing in the teaching of graphic expression subjects in engineering in engineering degrees
Manuel Ignacio Bahamonde García

METHODOLOGIES AND STRATEGIES BASED ON GRAPHICAL ENGINEERING

27-4
Topology optimization of the swingarm of a motorbike
Xabier Amezua, Gaizka Erkizia, Haritz Uriarte, Mikel Iturrate, Olatz Etxaniz, Mikel Jauregi, Xabier Garikano, Eneko Solaberrieta
1. University of the Basque Country

27-5
Meshing strategies for cfd simulations of lubricated mechanical components in open-source software
Lorenzo Maccioni, Franco Concli

DIGITAL TOOLS AND ARTIFICIAL INTELLIGENCE

27-6
Innovation in digital health and assistance: from wearable devices to integrated care ecosystems
Eva Tausiet, Alvaro Marco, Roberto Casas, Teresa Blanco

27-7
Artificial intelligence in museums: an overview of facial expression analysis techniques in museum-space-visitor interaction
Giusi Castaldo, Elena Laudante, Elidia Beatriz Blázquez-Parra, Enrique Dominguez Merino , Mario Buono

27-8
Facial scanning protocol in preterm newborns for the manufacture of custom nasal masks
Antonio Martín

27-9
Building a digital twin of the roman public works heritage in hispania
Antonio Alfonso Arcos Álvarez, Ángela Moreno Bazán, Jesús María Alonso Trigueros, Salvador Senent Dominguez

27-10
Designing digital twins for smart climate control in pig farming: applying iot and lora technology to modernize farm facilities
Pablo Bosque, Miguel Ángel Torres, Ignacio Martínez, Jorge Sierra

27-11
Remote identification of biofouling on submerged surfaces: image analysis and deep learning-based approaches
Emmanuele Barberi, Maria Francesca Alberghina, Luciana Randazzo, Michela Ricca, Felice Sfravara

27-12
Integrating AI and Voice Technology for Efficient Industrial Drawing Evaluation
Ubieto-Artur, Pedro; Rollo-Sánchez, Cristina; García-Hernández, César.

27-13
Exploring large language models for cad automation: a case study with catia scripting
Héctor De Pablo Pascual, Santiago Delgado Vaquero, **David Escudero-Mancebo**

MANAGEMENT OF PRODUCTS AND PROCESSES

27-14
Study of dimensional tolerances in additive manufacturing using commercial equipment
Eduardo Vázquez López, Francisco Andrés Valderrama Gual, Jose ángel Sevillano Caraballo, Pablo Sánchez Jiménez

27-15
Moving to organic goods and materials to reduce global warming potential emissions.
Sara Barandiaran Oliveras, Ortzi Akizu-Gardoki, Cristina Peña Rodriguez, Rikardo Minguez, Erlantz Lizundia Fernández

27-16
Optimising rheology and printability of a natural hydrogel for 3d bioprinting
Alfonso Carlos Marcos Romero, David Picado Tejero, Laura Mendoza Cerezo, Juan Pablo Carrasco Amador, Jesús Manuel Rodríguez Rego

27-17
Modelling and additive manufacturing of gelma-based bioinks applications in bioengineering
Laura Mendoza Cerezo, Francisco De Asís Iñesta Vaquera, Juan Pablo Carrasco Amador, Alberto Moreno Becerro, Jesús Manuel Rodríguez Rego

27-18
Design and manufacture of a device for the transport of biological material in 3d bioprinting
Francisco Jesús Moral García, Alfonso Carlos Marcos Romero, Jaime González Domínguez, Emiliano Pérez Hernández, Juan Carlos Gómez Blanco, José Blas Pagador Carrasco

27-19
A look at energy efficiency and sustainability in industrial agri-food projects through engineering graphics and eco-design
Fernando Gómez-Hermosa, Lázuli Fernández-Lobato, M.Carmen Ladrón-De-Guevara-Muñoz, Yaiza López-Sánchez, Elidia Beatriz Blázquez-Parra

27-20
Integration of graphic information with performance data to be used in built digital models
Aitor Aragón Basabe, **Amparo Verdu-Vazquez**, Mercedes Valiente Lopez, Marcos García Alberti

27-21
obtaining layout in a simple way
Jose Luis González-Cespon

27-22
Process of modeling a three-phase steam engine using 3dexperience student software
Rafael Ortiz-Marín, María Gloria Del Río-Cidoncha, Francisco Javier Melero-Morales, Alfonso Emilio Martínez-Del Río

TOOLS AND METHODOLOGIES FOR MANAGEMENT AND ANALYSIS OF SPATIAL DATA

27-23
Landscape restoration of the murcian huerta: integration of the barraca as a prototype of minimal and sustainable housing
Pedro Pina Ruiz, Tomas Gil Lopez, **Amparo Verdu-Vazquez**, Sebastian Alcaraz Garcia

27-24
Geometric analysis of san esteban church: new perspectives through 3d modeling
Margarita Infante Perea, Gregorio Manuel Mora Vicente, Concepción Cantillana Merchante, José Carlos Galán Jiménez

27-25
Optimization of a uav lidar flight plan to maximize lidar beam reflections on the ground under canopy
Juan José González-Quiñones, Juan Francisco Reinoso-Gordo, Francisco Javier Ariza-López, Manuel Antonio Ureña-Cámara

MISCELLANY

27-26
Design of an evolving cot convertible into a montessori bed
Aída López López