CURRÍCULUM VÍTAE NORMALIZADO

Rafael Abargues López

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Leadership Merits

Brief presentation of the merits related to leadership activities of special relevance.

In 2009, Abargues co-founded **Intenanomat S.L.**, a spin-off company from the University of Valencia dedicated to R&D in nanomaterials for **biotechnology, optoelectronics, catalysis, and renewable energy**. During his time at Intenanomat, he served first as **Director of Research and Development** for three years and later as **CEO** for four years, driving innovation and the commercialization of cutting-edge materials technologies.

He has successfully led seven completed research projects, managed multidisciplinary teams in both academic and industrial settings, and co-founded and directed a technology-based company. He currently supervises five Ph.D. students (five theses already completed) and plays a key role in fostering collaborations between academia and industry, positioning his group at the forefront of innovation in functional nanomaterials.

Rafael Abargues López

Surname(s):	**Abargues López**
Name:	**Rafael**
ORCID:	**0000-0001-5055-6339**
ORCID:	**0000-0001-5055-6339**
Gender:	**Male**
Nationality:	**Spain**
Country of birth:	**Spain**
Contact province:	**Valencia/València**
City of birth:	**Valencia**
Contact address:	**Catedratico Jose Beltran 2**
Rest of contact address:	**Intituto Ciencia de los Materiales (ICMUV)**
Postcode:	**46980**
Contact country:	**Spain**
Contact aut. region/reg.:	**Comunitat Valenciana**
Contact city:	**Valencia**
Email:	**Rafael.abargues@uv.es**
Personal web page:	**https://orcid.org/0000-0001-5055-6339**

Current professional situation

Employing entity: Universitat de València **Type of entity:** University
Department: Instituto Universitario de Ciencias de los Materiales
Professional category: Associate Professor
Start date: 26/10/2023
Type of contract: Permanent employment contract **Dedication regime:** Full time
Primary (UNESCO code): 230300 - Inorganic chemistry; 230400 - Macromolecular chemistry; 230700 - Physical chemistry

Previous positions and activities

	Employing entity	Professional category	Start date
1	Universitat de València	Investigador Ramón y Cajal	01/01/2017
2	Intenanomat SL	Director I+D	10/12/2009
3	Universitat de València	Senior Researcher	01/10/2007
4	Universitat de València	Posdoct	01/09/2006
5	University of Erlangen-Nuremberg	PhD Student	01/01/2006
6	Infineon Technologies A. G.	PhD Student	01/08/2001
7	Universitat de València	Proyecto final de carrera	01/10/1999

1 **Employing entity:** Universitat de València **Type of entity:** University
Professional category: Investigador Ramón y Cajal
Start-End date: 01/01/2017 - 26/10/2023

2 **Employing entity:** Intenanomat SL **Type of entity:** Business
City employing entity: Paterna, Comunitat Valenciana, Spain
Professional category: Director I+D **Leadership and management (Y/N):** No
Email: rafael.abargues@intenanomat.es
Start-End date: 10/12/2009 - 31/12/2016 **Duration:** 7 years - 21 days
Type of contract: Autónomo. Miembro Fundador
Primary (UNESCO code): 230000 - Chemistry
Performed tasks: CEO and Head of R&D and Production – Intenanomat (spin-off of the University of Valencia) Responsible for the strategic management and technological development of the company, including the supervision of R&D and production activities. Led the development and commercialization of functional nanomaterials such as noble metal nanoparticles (Au, Ag, Pt) and dielectric nanoparticles (nanodiamond, SiO_2) for industrial applications, particularly in the cosmetics sector. Directed research on semiconductor nanoparticles and quantum dots (CdS, CdSe, CdTe, PbS, PbSe, CdSe/ZnS) for applications in sensors, biomedicine, environmental technologies, photovoltaics, and photocatalysis, as well as their integration into nanostructured inks for emerging photovoltaic and LED technologies. Oversaw the development of hybrid nanocomposite materials based on nanoparticles embedded in lithographic resins, polymer matrices, and transparent oxides for photonics, sensing, spectral conversion layers, photocatalysis, and optoelectronic devices.
Applicability in teaching and/or research: The experience acquired as CEO and head of R&D at Intenanomat, a spin-off of the University of Valencia, has direct applicability to both research and teaching activities. From a research perspective, it provided extensive expertise in the synthesis, processing, and industrial scaling of nanomaterials, particularly metallic and semiconductor nanoparticles and their integration into functional devices. From a teaching perspective, this experience enables the incorporation of real industrial case studies into courses related to materials science, nanotechnology, and applied chemistry, offering students practical insight into technology transfer, industrial R&D, and the development of nanomaterial-based technologies.

3 **Employing entity:** Universitat de València **Type of entity:** University
Department: Instituto ciencia de los materiales de la universidad de valencia
Professional category: Senior Researcher
Start-End date: 01/10/2007 - 15/12/2010 **Duration:** 2 years
Type of contract: Grant-assisted student (pre or post-doctoral, others)
Dedication regime: Full time
Performed tasks: Si?ntesis y caracterización de nanoparti?culas meta?licas, semiconductoras, diele?ctricas y magne?ticas. Si?ntesis y caracterizacio?n nanocomposite poli?mero- nanoparti?cula con propiedades litogra?ficas. Sensores basados en nanoparti?culas metálicas.

4 **Employing entity:** Universitat de València **Type of entity:** University
Department: Instituto ciencia de los materiales
Professional category: Posdoct **Leadership and management (Y/N):** No
Start-End date: 01/09/2006 - 30/09/2007 **Duration:** 1 year - 1 month
Type of contract: Grant-assisted student (pre or post-doctoral, others)
Dedication regime: Full time
Performed tasks: Si?ntesis y caracterización de nanoparti?culas meta?licas, semiconductoras, diele?ctricas y magne?ticas. Si?ntesis y caracterizacio?n nanocomposite poli?mero- nanoparti?cula con propiedades litogra?ficas. Sensores basados en nanoparti?culas metálicas.
Area of leadership and/or management activity: University

5 **Employing entity:** University of Erlangen-Nuremberg
Professional category: PhD Student
Start-End date: 01/01/2006 - 30/06/2006 **Duration:** 6 months

Type of contract: Grant-assisted student (pre or post-doctoral, others)

6 **Employing entity:** Infineon Technologies A. G. **Type of entity:** Business
Professional category: PhD Student
Start-End date: 01/08/2001 - 01/01/2006 **Duration:** 4 years - 6 months
Type of contract: Temporary employment contract
Performed tasks: Si?ntesis y caracterizacio?n de poli?meros conductores ele?ctricos para litografi?a por haz de electrones.

7 **Employing entity:** Universitat de València **Type of entity:** University
Department: Departamento de química orgánica, Facultad de Ciencias Químicas de la UVEG
Professional category: Proyecto final de carrera
Start-End date: 01/10/1999 - 30/09/2000 **Duration:** 1 year
Performed tasks: Si?ntesis Qui?mica De Compuestos Organofluorados Con Funciones Fungicidas

Education

University education

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

University degree: Higher degree
Name of qualification: Licenciado en Ciencias Químicas
Degree awarding entity: Universitat de València **Type of entity:** University
Date of qualification: 2000

Doctorates

Doctorate programme: Doctor en Ciencias Químicas
Degree awarding entity: University of Erlangen-Nuremberg **Type of entity:** University
Date of degree: 23/06/2006
Thesis title: Conducting polymers as charge dissipator layers for electron beam lithography
Thesis director: U. Nickel
Thesis co-director: K. Elian
Obtained qualification: Cum Laude

Teaching experience

Other activities/achievements not included above

Description of the activity: Comisión Académica del Título Ingenieria Química
Organising entity: Universitat de València **Type of entity:** University
End date: 30/06/2021

Scientific and technological experience

Scientific or technological activities

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

1 **Name of the project:** Electrosíntesis sostenible: Producción de hidrógeno verde y transformación selectiva del glicerol en productos de valor añadido
Type of project: Research and development, including transfer
Entity where project took place: Universitat de València **Type of entity:** University
City of entity: Valencia, Comunitat Valenciana, Spain
Name principal investigator (PI, Co-PI....): Rafael Abargues
Nº of researchers: 1
Funding entity or bodies:
Ministerio de Ciencia, Innovación y Universidades **Type of entity:** national

Name of the programme: PROYECTOS DE COLABORACIÓN PÚBLICO-PRIVADA
Code according to the funding entity: CPP2024-011890
Start-End date: 01/10/2025 - 30/09/2028 **Duration:** 3 years
Total amount: 150.892,5 € **Sub-project amount:** 191.376 €

2 **Name of the project:** High-Efficiency Perovskites on Flexible Substrates for Sustainable Applications (HEPAFLEX)
Type of project: Research and development, including transfer
Entity where project took place: Universitat de València **Type of entity:** University
Name principal investigator (PI, Co-PI....): Rafael Abargues
Type of participation: Principal investigator
Name of the programme: HORIZON-CL5-2022-D3-03-05
Code according to the funding entity: 101122345
Start-End date: 15/11/2023 - 30/11/2027
Total amount: 477.838 €

3 **Name of the project:** Formulation of selective contact and perovskite inks for high-performance semitransparent and flexible solar cells (InkFlex). PID2023-151880OB-C32
Geographical area: National
Degree of contribution: Scientific coordinator
Entity where project took place: Universitat de València **Type of entity:** University
Name principal investigator (PI, Co-PI....): Rafael Abargues; Silver Turren
Nº of researchers: 2
Funding entity or bodies:
Ministerio de Ciencia, Innovación y Universidades **Type of entity:** PID2020

Type of participation: Principal investigator
Name of the programme: Proyecto Nacional. Retos de la sociedad
Start-End date: 01/09/2024 - 31/08/2027 **Duration:** 3 years

Total amount: 184.500 €
Sub-project amount: 184.500 €
Dedication regime: Full time

4 **Name of the project:** Perovskite Nanocomposites for Lighting Applications, LUMINOVA
Type of project: Research and development, including transfer
Geographical area: National
Entity where project took place: Universitat de València
Type of entity: University
Name principal investigator (PI, Co-PI....): R. Abargues; P.P.Boix
Nº of researchers: 2
Type of participation: Principal investigator
Name of the programme: Prueba de Concepto
Code according to the funding entity: PDC2023-145936-I00
Start-End date: 01/01/2024 - 31/12/2025
Total amount: 120.000 €

5 **Name of the project:** Hacia una tecnología fotovoltaica sostenible basada en perovskitas de haluros metálicos. MFA/2022/040
Entity where project took place: Universitat de València
Type of entity: University
Name principal investigator (PI, Co-PI....): Rafael Abargues; Pablo Perez Boix
Funding entity or bodies:
Ministerio de Ciencia, Innovación y Universidades
Type of entity: Plan de Recuperación, Transformación y Resiliencia
Start-End date: 30/06/2022 - 29/06/2025
Total amount: 299.690 €

6 **Name of the project:** Perovskite Solar Cells for Indoor Photovoltaics. TED2021-131600B-C32
Type of project: Research and development, including transfer
Geographical area: National
Entity where project took place: Universitat de València
Type of entity: University
Name principal investigator (PI, Co-PI....): Rafael Abargues; Pablo Perez Boix
Funding entity or bodies:
Ministerio de Ciencia, Innovación y Universidades
Type of entity: PROYECTOS DE TRANSICIÓN ECOLÓGICA Y TRANSICIÓN DIGITAL 2021
Type of participation: Principal investigator
Start-End date: 01/12/2022 - 30/11/2024
Total amount: 181.000 €

7 **Name of the project:** Nano and macro monocrystalline metal halide perovskites for advanced applications. PID2020-119628RB-C31
Geographical area: National
Degree of contribution: Scientific coordinator
Entity where project took place: Universitat de València
Type of entity: University
Name principal investigator (PI, Co-PI....): Pablo P. Boix; Rafael Abargues
Nº of researchers: 2
Funding entity or bodies:
Ministerio de Ciencia, Innovación y Universidades
Type of entity: PID2020
Type of participation: Principal investigator

Name of the programme: Proyecto Nacional. Retos de la sociedad
Start-End date: 01/09/2021 - 31/08/2024 **Duration:** 3 years
Total amount: 200.000 € **Sub-project amount:** 160.000 €
Dedication regime: Full time

8 **Name of the project:** SISTEMA DE TINTAS BASADAS EN NANOTECNOLOGÍA PARA EL DESARROLLO DE ENVASES BARRERA MULTIFUNCIONALES Y RECICLABLES
Type of project: Research and development, including transfer **Geographical area:** Regional
Degree of contribution: Coordinator of total project, network or consortium
Entity where project took place: Universitat de València **Type of entity:** University
Name principal investigator (PI, Co-PI....): Rafael
Nº of researchers: 4
Type of participation: Principal investigator
Name of the programme: Valorización. Agencia Valenciana de la Innovación.
Code according to the funding entity: INNVA1/2021/56
Start-End date: 01/09/2021 - 30/06/2023 **Duration:** 3 years
Total amount: 259.255 €
Percentage as grant: 100
Dedication regime: Part time

9 **Name of the project:** DRop-on demand flexible Optoelectronics & Photovoltaics by means of Lead-Free halide perovskITes 862656
Type of project: Basic research (including archaeological digs, etc) **Geographical area:** European Union
Degree of contribution: Researcher
Entity where project took place: Universitat de València **Type of entity:** University
City of entity: Valencia, Comunitat Valenciana, Spain
Name principal investigator (PI, Co-PI....): Juan P. Martinez-Pastor; Juan Francisco Sanchez Royo; Rafael Abargues Lopez
Nº of researchers: 21
Type of participation: Team member
Name of the programme: H2020-FETOPEN-2018
Start-End date: 01/10/2019 - 01/10/2022
Total amount: 3.461.344 € **Sub-project amount:** 658.125 €

10 **Name of the project:** Technology of high-selective imprinted nanoantenna for explosives detection (SPS G5361)
Entity where project took place: Universitat de València **Type of entity:** University
Name principal investigator (PI, Co-PI....): Juan Martinez Pastor; Rafael Abargues
Nº of researchers: 2
Funding entity or bodies:
NATO (North Atlantic Treaty Organization) **Type of entity:** Associations and Groups

Start-End date: 01/02/2018 - 31/01/2021
Total amount: 60.000 €

11 **Name of the project:** Etiquetas Inteligentes con nanoparticulas para la detección del deterioro de los alimentos envasados "SAFETAG"
Type of project: Industrial research
Degree of contribution: Researcher
Entity where project took place: Universitat de València **Type of entity:** University
City of entity: Valencia, Comunitat Valenciana, Spain
Name principal investigator (PI, Co-PI....): Rafael Abargues
Nº of researchers: 3
Type of participation: Principal investigator
Name of the programme: Retos-Colaboracion 2016. Ministerio Economia Industria y competitividad
Code according to the funding entity: RTC-2016-5197-2
Start-End date: 01/12/2016 - 31/05/2019
Total amount: 127.000 €

12 **Name of the project:** Fabricación de catalizadores de óxido de níquel para producción de hidrogeno de bajo coste HIDRONIO
Type of project: Industrial research
Degree of contribution: Researcher
Entity where project took place: Universitat de València **Type of entity:** University
City of entity: Valencia, Comunitat Valenciana, Spain
Name principal investigator (PI, Co-PI....): Rafael Abargues
Nº of researchers: 3
Type of participation: Principal investigator
Name of the programme: Agencia Valenciana de la Innovación. Valorización, Transferencia y Explotación por las Empresas de Resultados de I+D
Code according to the funding entity: INNVAL10/18/032
Start-End date: 01/01/2018 - 31/12/2018 **Duration:** 1 year
Total amount: 80.000 €

13 **Name of the project:** "DISPOSITIVOS OPTOELECTRÓNICOS Y FOTÓNICOS BASADOS EN NANOMATERIALES AVANZADOS: NANOCARACTERIZACIÓN Y NANOPROCESADO (OPTNANO)
Type of project: Basic research (including archaeological digs, etc) **Geographical area:** National
Degree of contribution: Researcher
City of entity: Universidad de valencia,
Nº of researchers: 10
Name of the programme: Programa Estatal de I+D+i Orientada a los Retos de la Sociedad
Code according to the funding entity: 941453745-53745-45-514
Start-End date: 2015 - 2018
Applicant's contribution: The main objective of the OPTONANO project is: "To contribute to the achievement of various social challenges, particularly in the field of energy and environmental sustainability through the development and manufacturing of optoelectronic devices and photonic / plasmonic concepts, applied to certain materials, which can serve as the basis for future optelectronic devices and sensors." As part of this objective, in the Subproject 1 we propose to do these developments on the basis of three types of advanced nanomaterials that exhibit a high impact on the international community from a few years ago: i) semiconductor quantum dots core/Shell - type functionalized with organic and inorganic terminations (novel aspect), ii) organometallic halide semiconductors, iii) 2D semiconductors obtained by micro-mechanical exfoliation or anodic bonding (novel aspect), iv) complementary nanomaterials (mainly for light trapping and electrodes) as ZnO, ZnO/graphene (nanowhiskers and nanostructured layers) and NiO, other than dielectric and metallic nanoparticles v) multifunctional polymers containing metal nanoparticles (or their precursors) and semiconductor nanocrystals. The specific objectives of subproject 1 may be grouped into: -

Contribute to the achievement of challenges proposed in the coordinated project, by applying wet processing methods (spin-coating, DrBlade, Spray-CVD, electrodeposition) for the formation of oxide, quantum dots and organometallic halides into thin films, as the basis for the fabrication of proposed devices in the project. - Development of new methodologies for processing 2D semiconductors (anodic bonding, ionic intercalation) to obtain bigger sheets than those obtained by micro-mechanical exfoliation and heterostructures of two or more types of 2D (or graphene) semiconductors, as a basis for developing proofs of concept related to photonic devices (vertical emitting lasers and photonic crystal structures) and electro-optical (photodetectors). - Definition of new concepts in plasmonic leading to new systems/devices for light interrogation as metal metasurfaces or the generation of soliplasmons (to be validated by using organometallic halides) and develop photonic/plasmonic interfaces for coupling/extracting light to/from 2D semiconductors. - To contribute to the knowledge of the optical properties of active nanomaterials proposed in this project (isolated QDs, 2D semiconductors and organometallic halides) by using advanced optical micro-spectroscopy techniques (confocal and near-field) for extracting information at micro- and nano-scales.

14 **Name of the project:** NANOMATERIALES PARA EL DESARROLLO DE DIODOS EMISORES DE LUZ (LEDs) BASADOS EN PUNTOS CUÁNTICOS COMO CONVERSORES DE FRECUENCIA
Entity where project took place: Intenanomat SL **Type of entity:** Business
City of entity: Paterna, Comunitat Valenciana, Spain
Name principal investigator (PI, Co-PI....): P. J. Rodriguez Canto; Rafael Abargues
Nº of researchers: 2
Funding entity or bodies:
Instituto Valenciano de Competitividad Empresarial **Type of entity:** Comunitat Valenciana

Start-End date: 01/07/2015 - 30/06/2016
Total amount: 63.000 €

15 **Name of the project:** Nano Scale Disruptive Silicon-Plasmonic Platform for Chip-to-Chip Interconnection (NAVOLCHI)
Type of project: Basic research (including archaeological digs, etc) **Geographical area:** European Union
Degree of contribution: Researcher
Entity where project took place: Universitat de València **Type of entity:** University
City of entity: Valencia, Comunitat Valenciana, Spain
Name principal investigator (PI, Co-PI....): J. P. MARTINEZ-PASTOR
Type of participation: Others
Name of the programme: FP7
Start-End date: 2012 - 2015 **Duration:** 3 years
Participating entity/entities: AIT (Greece); KIT (Germany); ST (Italy); TUE (Nederland); UGENT-IMEC (Belgium); UVEG (Spain)
Dedication regime: Part time
Applicant's contribution: Participación en el proyecto através de un contrato de subcontratación con la empresa INTENANOMAT. Funciones: Síntesis de nanocomposites de nanoparticulas metálicas de Au y Ag y polímeros orgánicos con propiedades litográficas para la fabricación de dispositivos plasmónicos.

16 **Name of the project:** Nanomaterials and nanotechnology for advanced PhotoVoltaics (NANOPV) (FP7-NMP-2009-SMALL-3)
Type of project: Basic research (including archaeological digs, etc) **Geographical area:** European Union
Degree of contribution: Researcher
Entity where project took place: Universitat de València **Type of entity:** University
City of entity: 2011, Comunitat Valenciana, Spain
Name principal investigator (PI, Co-PI....): J. P. MARTINEZ-PASTOR

Type of participation: Others
Name of the programme: FP7-NMP-2009-SMALL-3
Start-End date: 2011 - 2014 **Duration:** 3 years
Sub-project amount: 339.625 €
Dedication regime: Part time
Applicant's contribution: Síntesis de nanoparticulas de Au y Ag y de nanocomposites metálicos en matrices orgánicas e inorgánicas. Síntesis de puntos cuanticos del grupo II/VI (CdS, CdSe, CdTe) y IV/VI (PbS, PbSe) y preparación de nanocomposites. Deposición por "Layer by Layer" de puntos cuánticos.

17 **Name of the project:** Si?ntesis de tintas y pastas basadas en nanoparti?culas meta?licas y semiconductoras para preparacio?n de nanocomposites de base polime?rica y fabricacio?n de sensores y dispositivos optoelectro?nicos de bajo coste
Entity where project took place: Intenanomat S. L. **Type of entity:** Business
City of entity: Paterna, Comunitat Valenciana, Spain
Name principal investigator (PI, Co-PI....): Rafael Abargues López
Funding entity or bodies:
Ministerio de Ciencia e Innovación. Investigación **Type of entity:** ministerio
City funding entity: Madrid, Madrid, Comunidad de, Spain

Start-End date: 2010 - 2013 **Duration:** 3 years

18 **Name of the project:** Dispositivos Fotónicos y Plasmónicos: contribución en Nanomateriales, simulación de dispositivos y micro-espectroscopía óptica
Type of project: Basic research (including archaeological digs, etc) **Geographical area:** National
Degree of contribution: Researcher
Entity where project took place: Universitat de València **Type of entity:** University
City of entity: Valencia, Comunitat Valenciana, Spain
Name principal investigator (PI, Co-PI....): J. P. MARTINEZ-PASTOR
Type of participation: Others
Start-End date: 2008 - 2011 **Duration:** 3 years
Dedication regime: Part time

19 **Name of the project:** Nanocomposites absorbentes para dispositivos de conversión solar/térmica (continuación IMCITA/2007/2)
Type of project: Research and development, including transfer **Geographical area:** Regional
Degree of contribution: Researcher
Entity where project took place: Universitat de València **Type of entity:** University
City of entity: Valencia, Comunitat Valenciana, Spain
Name principal investigator (PI, Co-PI....): J. P. MARTINEZ-PASTOR
Funding entity or bodies:
Instituto de la Mediana y Pequeña Industria Valenciana **Type of entity:** Comunidad Valenciana
City funding entity: Valencia, Comunitat Valenciana, Spain

Type of participation: Others
Start-End date: 2008 - 2009 **Duration:** 1 year
Dedication regime: Part time

20 **Name of the project:** Nanocomposites absorbentes para dispositivos de conversión solar/térmica
Type of project: Basic research (including archaeological digs, etc) **Geographical area:** Regional
Degree of contribution: Researcher
Entity where project took place: Universitat de València **Type of entity:** University
City of entity: Valencia, Comunitat Valenciana, Spain
Name principal investigator (PI, Co-PI....): J. P. MARTINEZ-PASTOR
Type of participation: Others
Start-End date: 2007 - 2008 **Duration:** 1 year
Dedication regime: Part time

21 **Name of the project:** Nanoestructuras de semiconductores compuestos y su aplicación en dispositivos optoelectrónicos y fotónicos II
Geographical area: National
Degree of contribution: Researcher
Entity where project took place: Universitat de València **Type of entity:** University
City of entity: Valencia, Comunitat Valenciana, Spain
Name principal investigator (PI, Co-PI....): J. P. MARTINEZ-PASTOR
Type of participation: Others
Start-End date: 2005 - 2008 **Duration:** 3 years
Dedication regime: Part time

22 **Name of the project:** Celulas solares híbridas orgánicas-inorgánicas por dispersión de nanocristales semiconductores en polímeros
Type of project: Basic research (including archaeological digs, etc) **Geographical area:** Regional
Degree of contribution: Researcher
Entity where project took place: Universitat de València **Type of entity:** University
City of entity: Valencia, Comunitat Valenciana, Spain
Name principal investigator (PI, Co-PI....): J. P. MARTINEZ-PASTOR
Type of participation: Others
Start-End date: 2006 - 2007 **Duration:** 1 year
Dedication regime: Part time

23 **Name of the project:** Leitfähige Polymere Für Elektronenstrahllitographie
Type of project: Basic research (including archaeological digs, etc) **Geographical area:** National
Degree of contribution: Current university student
Entity where project took place: Infineon Technologies AG **Type of entity:** Business
City of entity: Erlangen, Oberfranken, Germany
Name principal investigator (PI, Co-PI....): K. Elian; U. Nickel
Type of participation: Doctorando
Name of the programme: Bundesministerium für Bildung und Forschung (BMBF)
Start-End date: 01/08/2001 - 31/05/2006 **Duration:** 4 years
Participating entity/entities: Infineon Technologies AG; University of Erlangen-Nuremberg
Relevant results: 4 patentes
Dedication regime: Full time

24 **Name of the project:** Terapia génica intestinal mediante inyección retrovenosa en segmentos cólicos humanos "exvivo": desarrollo de un modelo preclínico
Entity where project took place: Universidad de valencia **Type of entity:** University
Nº of researchers: 2
Start date: 12/03/2015
Total amount: 4.000 €

25 **Name of the project:** Nanoestructuras cua?nticas semiconductoras como clave para futuras tecnologi?as: de la nanofoto?nica a la nanoplasmo?nica.
Entity where project took place: Intenanomat S.L. **Type of entity:** Business
City of entity: Valencia,
Name principal investigator (PI, Co-PI....): J. Marti?nez Pastor(UVEG)
Funding entity or bodies:
Ministerio de Ciencia e Innovación. Investigación **Type of entity:** Ministerio
City funding entity: Madrid, Madrid, Comunidad de, Spain

Start date: 2012
Participating entity/entities: CSIC-IMM (Madrid); UCA (Ca?diz); UMH (Elche); UPV (Valencia); UVEG (Valencia)
Applicant's contribution: La empresa Intenanomat apoyó el proyecto y colabora activamente en el suministro, desarrollo e investigación de nanomateriales.

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

1 **Name of the project:** Asesoramiento y caracterización de celdas solares de pervoskita.
Type of project: Research and development, including transfer
Degree of contribution: Researcher
Name principal investigator (PI, Co-PI....): Rafael Abargues
Funding entity or bodies:
AIMPLAS Instituto Tecnológico del Plástico **Type of entity:** Innovation and Technology Centres

Start date: 01/01/2024 **Duration:** 1 year
Total amount: 22.000 €

2 **Name of the project:** Diseño, desarrollo y validación de un prototipo de electrolizador de membrana aniónica español (ESPAEM).
Type of project: Industrial research
Degree of contribution: Researcher
Name principal investigator (PI, Co-PI....): Rafael Abargues
Nº of researchers: 1
Funding entity or bodies:
Instituto para la Diversificación y Ahorro de Energía **Type of entity:** Business

H2B2 Electrolysis Technologies S.L.
City funding entity: Madrid, Comunitat Valenciana, Spain

Start date: 01/09/2023 **Duration:** 3 years
Total amount: 161.332 €

3 **Name of the project:** Asesoramiento Y Apoyo Tecnico Sobre La Deposicion De Electrodos Y Caracterizacion Optoelectronica Y Morfologica De Electrodos Selectivos Y Materiales Activos Y Encapsulacion De Dispositivos Fotovoltaicos De Polimero

Type of project: Research and development, including transfer
Degree of contribution: Researcher
Name principal investigator (PI, Co-PI....): Rafael Abargues
Funding entity or bodies:
AIMPLAS Instituto Tecnológico del Plástico **Type of entity:** Innovation and Technology Centres

Start date: 01/01/2023 **Duration:** 1 year
Total amount: 20.000 €

4 **Name of the project:** Catalizadores para generacion de H2 por electrolisis del H2O
Type of project: Industrial research
Degree of contribution: Researcher
Name principal investigator (PI, Co-PI....): Rafael Abargues
Nº of researchers: 1
Funding entity or bodies:
H2B2 Electrolysis Technologies S.L.
City funding entity: Madrid, Comunitat Valenciana, Spain

Start date: 01/01/2021 **Duration:** 1 year
Total amount: 54.000 €

5 **Name of the project:** Nanomateriales para cosmética y biotecnologia
Degree of contribution: Scientific coordinator
Name principal investigator (PI, Co-PI....): Rafael Abargues López
Nº of researchers: 2
Participating entity/entities: Intenanomat S. L.; NATURA BISSÉ INTERNATIONAL, S.A.
Funding entity or bodies:
Intenanomat S. L. **Type of entity:** Business
City funding entity: Paterna, Comunitat Valenciana, Spain

NATURA BISSÉ INTERNATIONAL, S.A.
City funding entity: Spain

Start date: 01/10/2012

6 **Name of the project:** Nanomateriales para cosmética y biotecnología
Degree of contribution: Scientific coordinator
Name principal investigator (PI, Co-PI....): Rafael Abargues López
Nº of researchers: 2
Participating entity/entities: INFINITEC ACTIVOS S.L.; Intenanomat S. L.
Funding entity or bodies:
Intenanomat S. L. **Type of entity:** Business
City funding entity: Paterna, Comunitat Valenciana, Spain

INFINITEC ACTIVOS S.L.
City funding entity: Spain

Start date: 2010

7 **Name of the project:** Nanomateriales y nanocomposites para optoelectronica, energia solar y sensores
Degree of contribution: Coordinator of total project, network or consortium
Name principal investigator (PI, Co-PI....): R. Abargues
Nº of researchers: 2
Funding entity or bodies:

Intenanomat S.L. **Type of entity:** Business

Start date: 2010

8 **Name of the project:** Puesta en marcha de laboratorio de I+D+i relativa a nanomateriales y nanotecnologías para células solares dentro del proyecto Nanotecnología al servicio de la Energía Solar"
Entity where project took place: Universitat de València
Degree of contribution: Researcher
Type of entity: University
City of entity: Valencia, Comunitat Valenciana, Spain
Name principal investigator (PI, Co-PI....): J. P. Martinez-Pastor
Participating entity/entities: Universitat de València
Type of project: Cooperation
Start date: 2009 **Duration:** 9 months
Sub-project amount: 36.000 €

9 **Name of the project:** Puesta en marcha de una línea de investigación relativa a nanomateriales y nanotecnologías para células solares dentro del proyecto Nanotecnología al servicio de la Energía Solar"
Entity where project took place: Universitat de València
Degree of contribution: Researcher
Type of entity: University
City of entity: Valencia, Comunitat Valenciana, Spain
Name principal investigator (PI, Co-PI....): J. P. Martinez-Pastor
Participating entity/entities: Universitat de València
Type of project: Cooperation
Start date: 2009 **Duration:** 9 months
Sub-project amount: 36.000 €

Results

Industrial and intellectual property

1 **Title registered industrial property:** Procedimiento de síntesis de un recubrimiento de óxido de estaño SnO2-x, recubrimiento obtenido por dicho procedimiento y usos del mismo
Inventors/authors/obtainers: R. Abargues; A. Saura; V. Sagra; T. Ripolles; P. P. Boix
Entity holder of rights: Universitat de València, Universitat Politècnica de València, Consejo Superior de Investigaciones Científicas (ITQ)
Country of inscription: Spain
Date of register: 22/07/2026

2 **Title registered industrial property:** Método De Preparación De Una Capa De Nanocristales De Perovskita
Type of industrial property: Patent of invention
Inventors/authors/obtainers: R. Abargues; M. Prieto; J. Carrasco; I. Suarez; T. Ripolles; P.P. Boix
Entity holder of rights: Universitat de València, Universitat Politècnica de València, Consejo Superior de Investigaciones Científicas (ITQ)
Nº of application: P202631039
Country of inscription: Spain
Date of register: 17/07/2026

3 **Title registered industrial property:** Procedimiento de cristalización in situ de perovskitas de haluros metálicos mediante vapores de disolventes polares próticos bajo condiciones de control termodinámico
Inventors/authors/obtainers: R. Abargues; I. Suarez; M. Minguez; M. Prieto; T. Ripolles; P.P. Boix
Entity holder of rights: Universitat de València, Universitat Politècnica de València, Consejo Superior de Investigaciones Científicas (ITQ)
Nº of application: P202631043
Country of inscription: Spain
Date of register: 17/07/2026

4 **Title registered industrial property:** Sistema De Modulación Óptica
Type of industrial property: Patent of invention
Inventors/authors/obtainers: Isaac Suarez; Sandra Soriano Díaz; Ivan Sánchez Alarcón; Albert Ferrando Cogollos; Juan Martínez Pastor; Rafael Abargues López
Entity holder of rights: Universitat de València
Nº of application: P202430900
Country of inscription: Spain
Date of register: 04/11/2024

5 **Title registered industrial property:** Procedimiento Para La Obtención De Un Recubrimiento De Perovskita Compuesta, Perovskita Compuesta Y Sus Aplicaciones
Inventors/authors/obtainers: Jaume Noguera Gomez; Rafael Abargues; Pablo P. Boix; Teresa Ripolles; Victor Sagra; Marta Valles; Sandy Sanchez
Entity holder of rights: Universitat de València
Nº of application: P202430479
Date of register: 12/06/2024

6 **Title registered industrial property:** Método De Preparación De Capas De Óxido De Paladio No Estequiométrico
Inventors/authors/obtainers: Jaume Noguera Gómez; Pablo Perez Boix; Noemi Farinos; Alejandro Saura; Juan Martinez Pastor; Rafael Abargues
Entity holder of rights: Universitat de València
Nº of application: P202330481
Country of inscription: Spain
Date of register: 08/06/2023

7 **Title registered industrial property:** Electrodo Electrocatalítico De Oxido Mixto De Hierro-Vanadio, Procedimiento Para Su Obtención Y Sus Usos En La Producción De Hidrógeno
Inventors/authors/obtainers: Alejandro Saura; Sixto Gimenez; Rafael Abargues
Entity holder of rights: Universitat de València, Universitat Jaume I
Nº of application: P202330270
Country of inscription: Spain
Date of register: 31/03/2023
Companies: Universidad Jaume I

8 **Title registered industrial property:** Método de preparación de capas de nanocristales de perovskitas de haluro metálico, nanocomposite en forma de película nanométrica formado por nanocristales de perovskitas, capas de nanocristales de perovskitas de haluros metálicos y usos de las capas
Type of industrial property: Patent of invention
Inventors/authors/obtainers: Abargues Rafael; Noguera Gomez Jaume; Perez Boix Pablo
Entity holder of rights: Universitat de València
Nº of application: P202130716
Country of inscription: Spain

Date of register: 23/07/2021

9 **Title registered industrial property:** material fotocatalizador y recubrimiento nanométrico obtenido a partir del mismo
Type of industrial property: Patent of invention **Author's rights:** Yes
Inventors/authors/obtainers: Rafael Abargues López; MARTINEZ PASTOR Juan P.
Entity holder of rights: Universitat de València
Nº of application: P202130501
Country of inscription: Spain, Comunitat Valenciana
Date of register: 02/06/2021

10 **Title registered industrial property:** Film Catalítico De Óxido De Níquel, Procedimiento Para Su Obtención Y Sus Usos
Type of industrial property: Patent of invention **Author's rights:** Yes
Inventors/authors/obtainers: Rafael Abargues López; Pedro Rodriguez Canto; Sixto gimenez; Jaume Noguera; MARTINEZ PASTOR Juan P.; Miguel Tecedor
Entity holder of rights: Universidad de Valencia. Intenanomat SL, Universidad Jaume I
Reference/registry code: P201930558 **Nº of application:** P201930558
Country of inscription: Spain, Comunitat Valenciana
Date of register: 19/06/2019
Spanish patent: Yes
Licences: Yes
Operating aut.region/region: Spain
Exclusive use: Yes

11 **Title registered industrial property:** Capas Poliméricas Conductoras Transparentes Y Método De Obtención De Las Mismas
Inventors/authors/obtainers: Pedro Rodriguez Canto; Rafael Abargues López; SASTRE SANTOS Angela; ZINK LORRE Nathalie; FONT SANCHIS Enrique; FERNANDEZ LAZARO Fernando
Entity holder of rights: Intenanomat SL, Universidad de Valencia. Universidad de Elche
Nº of application: P201730735
Country of inscription: Spain
Date of register: 26/05/2017

12 **Title registered industrial property:** Método de obtención de estructuras metálicas nano y micrométricas a partir de un nanocompuesto, estructura metálica obtenida con el método y uso de la misma
Inventors/authors/obtainers: Rafael Abargues; Pedro J. Rodriguez-Canto; Mariluz Martinez.Marco; Juan P. Martinez Pastor; Jose L. Valdes
Entity holder of rights: Intenanomat S.L., Universitat de València
Nº of application: P201201282
Country of inscription: Spain
Date of register: 21/12/2012

13 **Title registered industrial property:** Use Of Nanoparticles As Cytotoxic Agents
Inventors/authors/obtainers: JIMENEZ VILLAR ERNESTO [ES]; FUERTES VIVES GUSTAVO [ES]; PEDRUEZA VILLALMANZO ESTEBAN [ES]; SALGADO BENITO JESUS [ES]; ABARGUES LOPEZ RAFAEL [ES]; MARTINEZ-PASTOR JUAN [ES]
Entity holder of rights: Universitat de València
Nº of application: WO2009ES70575
Country of inscription: Spain
Date of register: 11/12/2008
Conferral date: 17/06/2010

14 **Title registered industrial property:** Compuesto Conjugado Para Su Uso Como Principio Activo En Cosmetica Asi Como Procedimiento Para La Obtencion De Dicho Compuesto Conjugado.
Inventors/authors/obtainers: GUTIERREZ REYES CARMEN [ES]; CRUZ RICONDO LUIS JAVIER [ES]; ACOSTA CRESPO GERARDO ALEXIS [ES]; ABARGUES LOPEZ RAFAEL [ES]; VALDES NAVARRO JOSE LUIS [ES]
Entity holder of rights: Infinitec Activos SL
Nº of application: ES20100030517
Country of inscription: Spain
Date of register: 09/04/2010
Products: COSMETICOS Y FARMACEUTICOS; Compuesto Conjugado Para Su Uso Como Principio Activo En Cosmetica Asi Como Procedimiento Para La Obtencion De Dicho Compuesto Conjugado.

15 **Title registered industrial property:** Plasmonic Nanocomposites Based On Polymer And Metal Nanoparticles For Lithographic Use
Inventors/authors/obtainers: ABARGUES LOPEZ RAFAEL [ES]; MARTINEZ PASTOR JUAN [ES]; VALDES NAVARRO JOSE LUIS [ES]; JIMENEZ VILLAR ERNESTO [ES]; PEDRUEZA VILLALMANZO ESTEBAN [ES]; MARQUES HUESO JOSE [ES]
Entity holder of rights: Universitat de València
Nº of application: ES20080000715
Country of inscription: Spain
Date of register: 03/03/2008
Conferral date: 04/09/2009

16 **Title registered industrial property:** Method For The Synthesis Of Inert Metal Nanoparticles
Inventors/authors/obtainers: JIMENEZ VILLAR ERNESTO [ES]; ABDERRAFI KAMAL [ES]; ABARGUES LOPEZ RAFAEL [ES]; MARTINEZ PASTOR JUAN [ES]; VALDES NAVARRO JOSE LUIS [ES]; IBANEZ PUCHADES RAFAEL [ES]
Entity holder of rights: Universitat de València
Nº of application: WO2008ES70156
Country of inscription: Spain
Date of register: 06/08/2008
Conferral date: 12/03/2009

17 **Title registered industrial property:** Electrically conductive resist, for lithographic procedures for preparing photomasks, comprises polymer or copolymer (having one acid labile group) and a group with delocalized pi electron system (e.g. carbazol group)
Inventors/authors/obtainers: ELIAN KLAUS [DE]; ABARGUES RAFAEL [DE]; NICKEL ULRICH [DE]
Entity holder of rights: Infineon Technologies AG; Univ Friedrich Alexander Erlangen-Nuremberg
Nº of application: DE200410047273
Date of register: 24/09/2004
Conferral date: 06/04/2006

18 **Title registered industrial property:** New electrically conductive polymer, comprising an acid cleavable group and a condensed aromatic group, useful in photo- and/or electron ray sensitive composition, which is useful for structuring a substrate using photo resisting layer
Inventors/authors/obtainers: ELIAN KLAUS [DE]; ABARGUES RAFAEL [DE]; NICKEL ULRICH [DE]
Entity holder of rights: Infineon Technologies AG
Nº of application: DE200410046405
Date of register: 24/09/2004
Conferral date: 06/04/2006

19 **Title registered industrial property:** Composition which forms an electrically conductive resist layer and a method for patterning a photoresist using the resist layer
Inventors/authors/obtainers: ABARGUES RAFAEL [DE]; ELIAN KLAUS [DE]
Entity holder of rights: Infineon Technologies AG
Nº of application: US20050087729
Date of register: 23/03/2005
Conferral date: 10/11/2005

20 **Title registered industrial property:** Polymerizable composition, polymer, resist, and process for electron beam lithography
Inventors/authors/obtainers: ELIAN KLAUS [DE]; ABARGUES RAFAEL [DE]
Entity holder of rights: Infineon Technologies AG
Nº of application: US20030627906
Date of register: 25/07/2003
Conferral date: 29/04/2004

Results derived from specialized and transfer activities, not included in previous sections

Description: Creation of a technology-based spin-off company
Primary (UNESCO code): 220000 - Physics; 230000 - Chemistry; 330000 - Technological Science.
Name of the principal Investigator (PI): R. Abargues
Name of the Co-principal investigator (Co-PI): J. P. Martinez-Pastor
Degree of contribution: Coordinator of total project, network or consortium
New techniques or equipment: Yes
Spin-off R&D companies: Yes
Results for improvement of products: Yes
Expert technologist: Yes
Collaboration agreements: Yes
Geographical area: Non EU International
Collaborating entity or bodies:
Universitat de València **Type of entity:** University
City collaborating entity: Valencia, Comunitat Valenciana, Spain

Start date: 15/12/2009
Relevant results: Founding partner. Development of 6 products based on nanomaterials (Au, Pt, Ag nanoparticles and nanodiamonds) for cosmetics
Identify key words: Sensors; Surfaces and interphases; Macromolecules and polymers; Chemical phisycs of materials; Semiconductors; Nanomaterials

Scientific and technological activities

Scientific production

H index: 32
Date of application: 17/07/2026
Source of H-Index: GOOGLE SCHOLAR

Publications, scientific and technical documents

1 Martínez-Pastor, Juan P; Sanchez-Alarcon, Ivan; Cantó, Pedro Javier Rodríguez; Perez-Pla, Francisco; Rafael Abargues; Aznar, Eduardo. Molecularly imprinted nanocomposites of CsPbBr3 nanocrystals: An approach towards fast and selective gas sensor of explosive taggants. Journal of Materials Chemistry C. Royal Society of Chemistry, 20/12/2021. Available on-line at: <https://doi.org/10.1039/D1TC05169E>.
Type of production: Scientific paper **Format:** Journal
Corresponding author: Yes
Relevant publication: Yes

2 Miriam Minguez-Avellan; Omar E. Solis; Noemi Farinós-Navajas; Pablo F. Betancur; Jorge Pascual; Teresa S. Ripolles; Rafael Abargues; Pablo P. Boix. Ambient operando self-healing in tin perovskite solar cells. EES Solar. 2 - 2, pp. 360 - 368. 2026. Available on-line at: <https://www.scopus.com/pages/publications/105037149156?origin=resultslist>.
Type of production: Scientific paper **Format:** Journal

3 Noemí Farinós-Navajas; Miriam Minguez-Avellan; Pablo F. Betancur; Seckin Akin; Muhammad Ans; Juan P. Martínez-Pastor; Silver-Hamill Turren-Cruz; Pedro J. Rodríguez-Cantó; Pablo P. Boix; Teresa S. Ripolles; Rafael Abargues. Highly Transparent BiEDOT-Based Conducting Polymers as Tailorable Hole Transport Materials for Perovskite Solar Cells. Small Structures. 7 - 5, 2026. Available on-line at: <https://www.scopus.com/pages/publications/105037328840?origin=resultslist>.
Type of production: Scientific paper **Format:** Journal

4 Sandra Soriano-Díaz; Jaume Noguera-Gómez; Diego Ramírez-Muñoz; Pablo P. Boix; Juan P. Martínez-Pastor; Rafael Abargues; Isaac Suárez. Photon Recycling–Driven Photodetection Enhancement in Ni(AcO)2–MAPbBr3 Nanocomposite Waveguides. Nanophotonics. 15 - 13, 2026. Available on-line at: <https://www.scopus.com/pages/publications/105043588247?origin=resultslist>.
Type of production: Scientific paper **Format:** Journal

5 Lakshman Sundar Arumugam; Ana Gutierrez-Blanco; Agustin O. Alvarez; Alejandro Saura Aviles; Mahesh Eledath-Changarath; Rafael Abargues; Juan Francisco Sánchez-Royo; Helena Rabelo; Maria Chiara Spadaro; Jordi Arbiol; Javier E. Durantini; Sixto Giménez. Polycarbazole–NiOOH Interfacial Engineering of BiVO4 Photoanodes for Efficient and Stable Solar Water Splitting. Energy and Environmental Materials. 2026. Available on-line at: <https://www.scopus.com/pages/publications/105034931793?origin=resultslist>.
Type of production: Scientific paper **Format:** Journal

6 Tetiana Boichuk; Andrii Boichuk; Mahesh Eledath Changarath; Marie Krečmarová; Rafael Abargues; Vitalii Vashchynskyi; Saïd Agouram; Juan F. Sánchez-Royo. Advanced aqueous sodium hybrid supercapacitors based on plant waste-derived activated carbon anode and multilayered Ti3C2 MXene cathode. Journal of Power Sources. 655, 2025. Available on-line at: <https://www.scopus.com/pages/publications/105010891207?origin=resultslist>.
Type of production: Scientific paper **Format:** Journal

7 Ismael Fernandez-Guillen; Miriam Minguez-Avellan; Clara A. Aranda; Pedro Atienzar; Rafael Abargues; Teresa S. Ripolles; Pablo P. Boix. Compositional Engineering of Monocrystalline Metal Halide Perovskite Memristors for Multistate Non-Volatile Operation. Advanced Electronic Materials. 11 - 20, 2025. Available on-line at: <https://www.scopus.com/pages/publications/105022188535?origin=resultslist>.
Type of production: Scientific paper **Format:** Journal

8 Diego Iglesias; Cristopher Tinajero; Simone Marchetti; Jaume Luis-G{\'o}mez; Ra{\'u}l Martinez-Cuenca; Jose F Fuentes-Ballesteros; Clara A Aranda; Alejandro Mart{\'\i}nez Serra; Mar{\'\i}a C Asensio; Rafael Abargues; others. Digital flow platform for the synthesis of high-quality multi-material perovskites. Digital Discovery. Royal Society of Chemistry, 2025.
Type of production: Scientific paper **Format:** Journal

9 Andrii Boichuk; Tetiana Boichuk; Marie Krečmarová; Mahesh Eledath Changarath; Rafael Abargues; Said Agouram; Juan F Sánchez-Royo. Enhancement of Diffusion-Controlled Pseudocapacity in Biphasic NaMnO 2 Electrodes for Sodium Batteries by Tailoring Structural and Morphological Properties. ACS Omega. American Chemical Society, 2025.
Type of production: Scientific paper **Format:** Journal

10 Andrii Boichuk; Tetiana Boichuk; Marie Krečmarová; Mahesh Eledath Changarath; Rafael Abargues; Said Agouram; Juan F. Sánchez-Royo. Enhancement of Diffusion-Controlled Pseudocapacity in Biphasic NaMnO2 Electrodes for Sodium Batteries by Tailoring Structural and Morphological Properties. ACS Omega. 10 - 26, pp. 28395 - 28403. 2025. Available on-line at: <https://www.scopus.com/pages/publications/105009065462?origin=resultslist>.
Type of production: Scientific paper **Format:** Journal

11 Andrii Boichuk; Tetiana Boichuk; Mahesh Eledath-Changarath; Marie Kre{\v{c}}marov{\'a}; Rafael Abargues; Pablo P Boix; Mar{\'\i}a C Asensio; Sa{\"\i}d Agouram; Juan F S{\'a}nchez-Royo. High-performance biphasic Na x MnO 2 electrodes for cost-effective and high-power aqueous sodium batteries and capacitors. Materials Advances. 6 - 3, pp. 1152 - 1163. Royal Society of Chemistry, 2025.
Type of production: Scientific paper **Format:** Journal

12 Tetiana Boichuk; Andrii Boichuk; Mahesh Eledath-Changarath; Marie Krecmarova; Rafael Abargues; Vitalii Vashchynskyi; Sa{\"\i}d Agouram; Juan Francisco S{\'a}nchez-Royo. Hybrid sodium supercapacitors with excellent stability, power, and energy densities based on eco-friendly activated carbon and multilayered Ti3C2 MXene electrodes. Power, and Energy Densities Based on Eco-Friendly Activated Carbon and Multilayered Ti3c2 Mxene Electrodes. 2025.
Type of production: Scientific paper **Format:** Journal

13 Jaume Noguera-Gómez; Víctor Sagra-Rodríguez; Vladimir S. Chirvony; Miriam Minguez-Avellan; Mahesh Eledath-Changarath; Juan F. Sánchez-Royo; Juan P. Martínez-Pastor; Pablo P. Boix; Rafael Abargues. Passivation Mechanism in Highly Luminescent Nanocomposite-Based CH3NH3PbBr3 Perovskite Nanocrystals. Small Science. 5 - 5, 2025. Available on-line at: <https://www.scopus.com/pages/publications/85215601691?origin=resultslist>.
Type of production: Scientific paper **Format:** Journal

14 Jaume Noguera-G{\'o}mez; V{\'\i}ctor Sagra-Rodr{\'\i}guez; Vladimir S Chirvony; Miriam Minguez-Avellan; Mahesh Eledath-Changarath; Juan F S{\'a}nchez-Royo; Juan P Mart{\'\i}nez-Pastor; Pablo P Boix; Rafael Abargues. Passivation Mechanism in Highly Luminescent Nanocomposite-Based CH3NH3PbBr3 Perovskite Nanocrystals. Small Science. 5 - 5, pp. 2400529 - 2400529. 2025.
Type of production: Scientific paper **Format:** Journal

15 Sandra Soriano-D{\'\i}az; Jaume Noguera-G{\'o}mez; Juan P Mart{\'\i}nez-Pastor; Pablo P Boix; Rafael Abargues; Isaac Su{\'a}rez. Photon Recycling Triggered Amplified Spontaneous Emission in MAPbBr3-Ni (AcO) 2 Nanocomposite Waveguides. Laser & Photonics Reviews. pp. 2401920 - 2401920. 2025.
Type of production: Scientific paper **Format:** Journal

16 Sandra Soriano-Díaz; Jaume Noguera-Gómez; Juan P. Martínez-Pastor; Pablo P. Boix; Rafael Abargues; Isaac Suárez. Photon Recycling Triggered Amplified Spontaneous Emission in MAPbBr3-Ni(AcO)2 Nanocomposite Waveguides. Laser and Photonics Reviews. 19 - 10, 2025. Available on-line at: <https://www.scopus.com/pages/publications/85219687484?origin=resultslist>.
Type of production: Scientific paper **Format:** Journal

17 Jaume Noguera-G{\'o}mez; V{\'\i}ctor Sagra-Rodr{\'\i}guez; Marta Vall{\'e}s-Pelarda; Miriam Minguez-Avellan; Sandy S{\'a}nchez; Rosario Vidal; Jaume-Adri{\`a} Alberola-Borr{\`a}s; Rafael Abargues; Pablo P Boix. Straightforward and green synthesis of all-inorganic CsPbI 3 perovskite solar cells via nickel acetate incorporation. EES Solar. 1 - 5, pp. 868 - 880. Royal Society of Chemistry, 2025.
Type of production: Scientific paper **Format:** Journal

18 Raúl I Sánchez-Alarcón; Omar E Solís; María Cristina Momblona-Rincon; Teresa S Ripolles; Juan P Martínez-Pasto; Abargues r; Pablo P Boix. Chemically driven dimensionality modulation of hybrid tin (ii) halide perovskite microcrystals. Journal of Materials Chemistry C. 12 - 21, pp. 7605 - 7614. 01/03/2024.
Type of production: Scientific paper

19 Omar E Solis, Miriam Mínguez-Avellán, Pablo F Betancur, Raúl I Sánchez-Alarcón, Isabelle Rodriguez,; Teresa S Ripolles; Rafael Abargues; Pablo P Boix. Adjusting the Crystallization of Tin Perovskites through Thiophene Additives for Improved Photovoltaic Stability. ACS Energy Letters. 2024.
Type of production: Scientific paper

20 Tetiana Boichuk, Andrii Boichuk, Vitalii Vashchynskyi, Mahesh Eledath Changarath, Marie Krečmarová,. Highly porous activated carbon derived from plant raw material as high-performance anode for aqueous sodium-ion supercapacitors. Journal of Power Sources. 2024.
Type of production: Scientific paper

21 José F Serrano-Claumarchirant, Chungyeon Cho, Andrés Cantarero, Mario Culebras, Rafael Abargues, Cla. How Plasmon Ag Nanoparticles can Enhance the Power Performance of a Thermoelectric Generator. Small. 2024.
Type of production: Scientific paper

22 Miriam Minguez-Avellan, Noemi Farinós-Navajas, Jaume Noguera-Gómez, Víctor Sagra Rodríguez, Marta Va. Perovskite Nanocomposite: A Step Toward Photocatalytic Degradation of Organic Dyes. Solar RRL. 2024.
Type of production: Scientific paper

23 Ismael Fernandez-Guillen, Clara A Aranda, Pablo F Betancur, Marta Vallés-Pelarda, Cristina Momblona,. Perovskite Thin Single Crystal for a High Performance and Long Endurance Memristor. Advanced Electronic Materials. 2024.
Type of production: Scientific paper

24 Pablo F Betancur, Teresa SS Ripolles, Rafael Abargues, Omar E Solís, Pablo P Boix. Recombination Resistance Identification through Current-Voltage Curve Reconstruction in Perovskite Solar Cells. Physical Chemistry Chemical Physics. 2024.
Type of production: Scientific paper

25 Ismael Fernandez-Guillen; Vladimir S Chirvony; Marie Krečmarová; Guillermo Muñoz-Matutano; Jesus Ortiga-Fibla; Ana Cros; N{\'u}ria Garro; Juan F Sánchez-Royo; Juan P Marfinez-Pastor; Mafia Carmen Asensio; others. Boosting Photoluminescence in MAPbBr3 Single Crystals through Laser-Based Surface Modification. ACS Photonics. American Chemical Society, 2023.
Type of production: Scientific paper **Format:** Journal

26 Ananthakumar Soosaimanickam; Alejandro Saura; Noemi Farin{\'o}s; Rafael Abargues. Influence of Binary Ligands in Designing Cesium Lead Halide (CsPbX3, X= Cl, Br, I) Perovskite Nanocrystals-Oleic Acid and Oleylamine. Nanoenergy Advances. 3 - 4, pp. 376 - 400. MDPI, 2023.
Type of production: Scientific paper **Format:** Journal

27 Akun Liang; Robin Turnbull; Catalin Popescu; Ismael Fernandez-Guillen; Rafael Abargues; Pablo P Boix; Daniel Errandonea. Pressure-induced phase transition versus amorphization in hybrid methylammonium lead bromide perovskite. The Journal of Physical Chemistry C. American Chemical Society, 2023.
Type of production: Scientific paper **Format:** Journal

28 Jaume Noguera-G{\'o}mez; Pablo P Boix; Rafael Abargues. Protocol for the synthesis of perovskite nanocrystal thin films via in situ crystallization method. STAR protocols. 4 - 4, pp. 102507 - 102507. Elsevier, 2023.
Type of production: Scientific paper **Format:** Journal

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Type of production: Scientific paper **Format:** Journal

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Type of production: Scientific paper **Format:** Journal

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Type of production: Scientific paper **Format:** Journal

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Type of production: Scientific paper **Format:** Journal
Source of citations: WOS **Citations:** 3

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Type of production: Scientific paper **Format:** Journal

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Type of production: Scientific paper **Format:** Journal

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Type of production: Scientific paper **Format:** Journal

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Type of production: Scientific paper **Format:** Journal

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Type of production: Book chapter **Format:** Book

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Type of production: Book chapter **Format:** Book

Corresponding author: No

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Type of production: Scientific-technical report **Format:** Scientific and technical document or report

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Type of production: Scientific-technical report **Format:** Scientific and technical document or report
Relevant results: 10.1109/MWP.2013.6724073

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Type of production: Scientific-technical report
Source of citations: WOS **Citations:** 0

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Type of production: Scientific-technical report
Source of citations: WOS

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Type of production: Scientific-technical report **Format:** Scientific and technical document or report

121 Gustavo Fuertes; Esteban Pedrueza; Kamal Abderrafi; Rafael Abargues; Orlando Sanchez; Juan Martinez Pastor; Jesus Salgado; Ernesto Jimenez. Photoswitchable bactericidal effects from novel silica-coated silver nanoparticles. MEDICAL LASER APPLICATIONS AND LASER-TISSUE INTERACTIONS V. 8092, 2011. Available on-line at: <Conference on Medical Laser Applications and Laser-Tissue Interactions V>. ISSN 0277-786X
Type of production: Scientific-technical report

Source of citations: WOS **Citations:** 0

122 E. Pedrueza Villalmanzo; J. Sancho-Parramon; S. Bosch; J.L. Valdés; R. Abargues; C. Diaz-Egea; S.I. Molina; J.P. Martínez-Pastor. Reflectance Properties of TiO2/Ag-Au Nanoparticles in Nanocomposite Layers. EU PVSEC Proceedings. pp. 388 - 393. WIP Wirtschaft und Infrastruktur. Planungs KG, 2011. ISBN 3-936338-27-2
Type of production: Scientific-technical report **Format:** Scientific and technical document or report

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Type of production: Scientific-technical report **Format:** Scientific and technical document or report

124 R. Garcia-Calzada; K. Abderrafi; I. Suárez; R. Abargues; J.F. Sánchez-Royo. Simple Laser-Ablation Based Method to Produce Suspensions of Luminescent Silicon Quantum Dots for Photovoltaic Applications. EU PVSEC Proceedings. pp. 707 - 709. WIP Wirtschaft und Infrastruktur. Planungs KG, 2010. ISBN 3-936338-26-4
Type of production: Scientific-technical report **Format:** Scientific and technical document or report

125 nanotechnology news. QD-polymer nanocomposite displays multicolour wave-guiding. 2011. Available on-line at: <http://nanotechweb.org/cws/article/lab/47554>.
Format: Journal

126 Juan Martínez Pastor; Guillermo Muñoz Matutano; Rafael Abargues López. El mayúsculo impacto de lo minúsculo. Metode. 65, pp. 66 - 73. 2010. ISSN 2171-911X
Format: Journal

R&D management and participation in scientific committees

Scientific, technical and/or assessment committees

1 **Committee title:** Asesor Cientitfico en Intenanomat SL
Affiliation entity: Intenanomat SL
Start date: 01/01/2017

2 **Committee title:** Evaluator ANEP
Primary (UNESCO code): 230000 - Chemistry
Secondary (UNESCO code): 331200 - Materials technology
Affiliation entity: Ministerio de Ciencia, Innovación y Universidades **Type of entity:** Ministerio

R&D management

1 **Name of the activity:** Creación del departamento de I+D de la Intenanomat S. L.
Type of management: Management of R&D&I actions and projects
Performed tasks: Creación y Desarrollo del plan estrategico del departamento de I+D de Intenanomat
Entity: Intenanomat S. L. **Type of entity:** Business
Start date: 2010

2 **Name of the activity:** Manager R&D
Type of management: Management of R&D&I actions and projects
Performed tasks: Manager R&D
Entity: Intenanomat S. L. **Type of entity:** Business
Start date: 2010
Geographical area: European Union

Evaluation and revision of R&D projects and articles

1 **Performed tasks:** Evaluador de Proyectos
Entity where activity was carried out: Evalua EQA **Type of entity:** Business
City of entity: Spain
Start date: 01/01/2024

2 **Performed tasks:** Evaluador de proyectos
Entity where activity was carried out: Agencia estatal de investigación
City of entity: Spain
Start date: 01/01/2017

Other achievements

Stays in public or private R&D centres

1 **Entity:** University of Erlangen-Nuremberg **Type of entity:** University
Faculty, institute or centre: Ciencias Químicas
City of entity: Erlangen, Oberfranken, Germany
Start-End date: 01/08/2001 - 23/06/2006 **Duration:** 4 years - 10 months - 22 days
Goals of the stay: Doctorate

2 **Entity:** Infineon Technologies AG **Type of entity:** Business
City of entity: Erlangen, Oberfranken, Germany
Start-End date: 01/08/2001 - 01/01/2006 **Duration:** 4 years - 4 months
Goals of the stay: Doctorate

Obtained grants and scholarships

1 **Name of the grant:** Programa Torres Quevedo 2010
Aims: Post-doctoral
Awarding entity: Ministerio de Ciencia e Innovación. Investigación **Type of entity:** Público
Conferral date: 31/12/2010 **Duration:** 3 years
End date: 31/12/2013
Entity where activity was carried out: Intenanomat S. L.

2 **Name of the grant:** Ayuda para estancia de doctores en centros de investigación de excelencia de la Comunitat Valenciana
Aims: Post-doctoral

Awarding entity: Generalitat Valenciana
Type of entity: Publico
Conferral date: 02/10/2007
Duration: 2 years
End date: 01/10/2009
Entity where activity was carried out: Universitat de València
Faculty, institute or centre: Instituto Universitario de Ciencias de los Materiales

3 **Name of the grant:** Ramón y Cajal Fellowship 2015
Aims: Post-doctoral
Awarding entity: Ministerio de Ciencia, Innovación y Universidades
Type of entity: Research Associate
Conferral date: 01/01/2017
Duration: 5 years
Entity where activity was carried out: Universitat de València
Faculty, institute or centre: Instituto de Ciencia de los Materiales

Periods of research activity and knowledge transfer

Geographical area: Regional
Certifying entity: Agencia Valenciana de Avaluacio i prospectiva
Type of entity: State agency
Date of recognition: 01/09/2020

Summary of other achievements

Description of the achievement: FUNDADOR DE INTENANOMAT SL (Spin-Off. Empresa de Base Tecnológica)
Conferral date: 10/12/2009