

Fecha del CVA

31/03/2025

## Part A. DATOS PERSONALES

Nombre	María Rosario		
Apellidos	Vidal Nadal		
Sexo (*)	Mujer	Fecha de nacimiento (dd/mm/yyyy)	
DNI, NIE, pasaporte			
Dirección email		URL Web	
Open Researcher and Contributor ID (ORCID) (*)		0000-0001-7872-0620	

\* datos obligatorios

### A.1. Situación profesional actual

Puesto	Catedrática de Universidad		
Fecha inicio	2009		
Organismo/ Institución	Universitat Jaume I		
Departamento/ Centro	Institute of Advanced Materials (INAM)		
País	España	Teléfono	
Palabras clave	Análisis del ciclo de vida, métricas de sostenibilidad, protección del medio ambiente, sostenibilidad energía, sostenibilidad agua		

### A.2. Situación profesional anterior (incluye interrupciones en la carrera investigadora, de acuerdo con el Art. 14. b) de la convocatoria, indicar meses totales)

Periodo	Puesto/ Institución/ País / Motivo interrupción
1999-2009	Profesora Titular de Universidad. Universitat Jaume I
1996-1999	Profesora Asociada Tipo 3. Universitat Jaume I
1993-1996	Profesora Ayudante de Escuela. Universitat Jaume I

### A.3. Formación Académica

Grado/Master/Tesis	Universidad/País	Año
DOCTOR INGENIERO INDUSTRIAL	Universidad Politécnica de Valencia	1996
Ingeniería industrial (esp. mecánica)	Universidad Politécnica de Valencia	1993
Ingeniería técnica industrial (esp. química)	Universidad Politécnica de Valencia	1990
Certificación en DIRECCIÓN DE PROYECTOS (nivel C)	IPMA	2007

## Parte B. RESUMEN DEL CV (máx. 5000 caracteres, incluyendo espacios)

Rosario Vidal has been a Professor of Engineering Projects at the Universitat Jaume I de Castellón since February 1, 2009, through the national qualification process. Since September 1993, she has held various professorship positions at the same university. For a period of three years, she served as the academic coordinator of the Increa Chair, which aimed to promote innovation and creativity at Jaume I University. Her teaching areas include Ecodesign, Engineering Projects, Design Methodologies, and more.

She pursued a Bachelor's degree in Industrial Technical Engineering with a specialization in Chemistry, graduating at the top of her class. Additionally, she also completed a degree in Industrial Engineering with a focus on Mechanical specialties. She studied her doctorate in the program of Urban Hydraulics and Environment of the Polytechnic University of Valencia. During her doctoral studies, she spent time conducting research at the U.S Environmental Agency (EPA) in Cincinnati, Ohio. Her doctoral thesis focused on modeling water quality in distribution networks for drinking water. After several years, she returned to this field to apply her knowledge towards improving drinking water quality in Madrid's community.

Currently, Rosario Vidal's main research focus is environmental assessment using life cycle analysis methodology. She has successfully applied these methodologies across various sectors while advocating for creative solutions and high scientific standards to enhance environmental assessment

processes and propose truly sustainable alternatives. Her accomplishments include developing tools that facilitate green public procurement methods and improved methodologies for calculating impacts related to noise and human toxicity categories.

Much of her early-stage research centered on emerging materials and technologies while drawing from interdisciplinary expertise such as industrial scaling simulations, scenario analysis models, pollutant fate prediction, chemical synthesis techniques, probability models and multi-criteria decision-making approaches.

Over time Rosario Vidal expanded her research scope from environmental assessment to sustainability assessment by analyzing social impacts during product life cycles along with exploring concepts like circular economy and criticality of raw materials.

She is an accomplished author with over seventy articles published in international journals along with five books, eighteen book chapters and more than one hundred and sixty conference papers presented; moreover, she has supervised sixteen doctoral thesis. Her work can be found within high impact journals such as *Nature Sustainability*. In terms of funding, she has participated in over fifty competitive projects, leading twenty seven as principal investigator. She also worked in over sixty non-competitive projects mainly serving as principal investigator. The most relevant projects are five European projects as researcher, one LIFE project as IP; eight European projects subcontracted to perform the LCA as IP; one singular strategic project (PSE) as IP; and two excellent research groups (Prometeo, GVA) as researcher.

Rosario Vidal's academic contributions extend beyond teaching as well. She has been invited as visiting professor at Universidad Internacional de Andalucía, Universidad de Huelva, University of Tampere (Finland), Universidad Católica de Valencia, Universidad de Guadalajara (Mexico), Universidad Politécnica de Cataluña, Cranfield University (United Kingdom), Universidad Tecnológica Metropolitana de Chile and Universidad Politécnica de Valencia. Additionally, she conducted research stays at the Environmental Protection Agency (USEPA) and the National Renewable Energy Laboratory (NREL) in United States.

She has been awarded 4 six-year research periods and 1 six-year transfer period.

She has supervised 16 doctoral theses.

## **Part C. LISTADO DE APORTACIONES MÁS RELEVANTES (últimos 10 años)**

### **C.1. Publicaciones más relevantes desde 01-01-2015**

1. Bhattacharyya, S., Vidal, R., Alhashim, S. H., Chen, X., & Ajayan, P. M. (2025). Comparative Assessment & Environmental Impacts of Lixiviants for Hydrometallurgical Lithium-Ion Battery Recycling. *Advanced Energy Materials*. <https://doi.org/10.1002/aenm.202405348>
2. Vidal, R., Lamminen, N., Holappa, V., Alberola-Borràs, J. A., Franco, I. P., Grandhi, G. K., & Vivo, P. (2025). Assessing the Environmental Impact of Pnictogen-based Perovskite-Inspired Materials for Indoor Photovoltaics. *Advanced Energy Materials*, 2403981. Doi: 10.1002/aenm.202403981
3. Pino, A., Ibáñez-Felip, I., & Vidal, R. (2024). Water Absorption of Underwater Products by Additive Manufacturing. *Materials*, 17(23), 5953. Doi: 10.3390/ma17235953
4. Ibáñez-García, A., Berbegal-Pina, R., Vidal, R., & Martínez-García, A. (2024). Sustainability in the Development of Natural Pigment-Based Colour Masterbatches and Their Application in Biopolymers. *Polymers*, 16(15), 2116. Doi: 10.3390/polym16152116
5. Pino, A., Vidal, R., Tormos, E., Cerdà-Reverter, J. M., Marín Prades, R., & Sanz, P. J. (2024). Towards Fish Welfare in the Presence of Robots: Zebrafish Case. *Journal of Marine Science and Engineering*, 12(6), 932. Doi: 10.3390/jmse12060932
6. Vescio, G., Dirin, D. N., González-Torres, S., Sanchez-Diaz, J., Vidal, R., Franco, I. P., ... & Garrido, B. (2024). Inkjet-Printed Red-Emitting Flexible LEDs Based on Sustainable Inks of Layered Tin Iodide Perovskite. *Advanced Sustainable Systems*, 2400060. Doi: 10.1002/adssu.202400060
7. Almeida da Silva, T. C., Sánchez, R. S., Alberola-Borràs, J. A., Vidal, R., Mora-Seró, I., & Julián-López, B. Advancing Scalability and Sustainability of Perovskite Light-Emitting Diodes Through the

- Microwave Synthesis of Nanocrystals. *Energy & Environmental Materials*, e12810. Doi: 10.1002/eem2.12810
8. Sánchez-Pantoja, N., Lázaro, C., & Vidal, R. (2023). Parameterized environmental impacts of ready-mixed concrete in Spain. *Journal of Sustainable Cement-Based Materials*, 12(6), 751-770. Doi: 10.1080/21650373.2022.2119617
  9. Feng, S. P., Cheng, Y., Yip, H. L.,... & Djurišić, A. B. (2023) R. Vidal (46/51). Roadmap on commercialization of metal halide perovskite photovoltaics. *Journal of Physics: Materials*, 6(3), 032501. DOI 10.1088/2515-7639/acc893
  10. Vidal, R., Alberola-Borràs, J.A., Habisreutinger, S.N. et al. 2021. Assessing health and environmental impacts of solvents for producing perovskite solar cells. *Nat Sustain* 4, 277–285. Doi: 10.1038/s41893-020-00645-8
  11. Vidal, R., Alberola-Borràs, J. A., Sánchez-Pantoja, N., & Mora-Seró, I. (2021). Comparison of perovskite solar cells with other photovoltaics technologies from the point of view of life cycle assessment. *Advanced Energy and Sustainability Research*, 2(5), 2000088. Doi: 10.1002/aesr.202000088
  12. Sánchez-Pantoja, N., Vidal, R., & Pastor, M. C. (2021). EU-funded projects with actual implementation of renewable energies in cities. Analysis of their concern for aesthetic impact. *Energies*, 14(6), 1627. Doi.org: 10.3390/en14061627
  13. Vidal, R., Alberola-Borràs, J. A., & Mora-Seró, I. 2020. Abiotic depletion and the potential risk to the supply of cesium. *Resources Policy*, 68, 101792. Doi: 10.1016/j.resourpol.2020.101792
  14. Sánchez, S., Vallés-Pelarda, M., Alberola-Borràs, J.A., Vidal, R., Jerónimo-Rendón, J.J., Saliba, M., Boix, P.P., Mora-Seró, I., 2019. Flash infrared annealing as a cost-effective and low environmental impact processing method for planar perovskite solar cells. *Mater. Today*. Doi: 10.1016/j.mattod.2019.04.021
  15. Vidal, R., Sánchez-Pantoja, N., 2019. Method based on life cycle assessment and TOPSIS to integrate environmental award criteria into green public procurement. *Sustain. Cities Soc.* 44, 465–474. Doi: 10.1016/j.scs.2018.10.011
  16. Vidal, R., Sánchez-Pantoja, N., & Martínez, G. (2019). Life cycle assessment of a residential building with cross-laminated timber structure in Granada-Spain. *Informes de la Construcción*, 71(554), e289. DOI:10.3989/ic.60982
  17. Pérez-Torres, A., Vidal, R., & Tena, J. 2019. Methodology for planning environmental management systems by drawing upon the Industrial Emissions Directive: A case study at a Spanish metal surface treatment company. *Journal of Cleaner Production*, 215, 992-1004. DOI: 10.1016/j.jclepro.2019.01.131
  18. Alberola-Borràs, J.-A., Baker, J.A., De Rossi, F., Vidal, R., Beynon, D., Hooper, K.E.A., Watson, T.M., Mora-Seró, I., 2018. Perovskite Photovoltaic Modules: Life Cycle Assessment of Pre-industrial Production Process. *iScience* 0. <https://doi.org/10.1016/j.isci.2018.10.020>
  19. Sánchez-Pantoja, N., Vidal, R., Pastor, M.C., 2018. Aesthetic impact of solar energy systems. *Renew. Sustain. Energy Rev.* 98, 227–238. <https://doi.org/10.1016/j.rser.2018.09.021>
  20. Alberola-Borràs, J. A., Vidal, R., Juárez-Pérez, E. J., Mas-Marzá, E., Guerrero, A., & Mora-Seró, I. (2018). Relative impacts of methylammonium lead triiodide perovskite solar cells based on life cycle assessment. *Solar Energy Materials and Solar Cells*, 179, 169-177. DOI: 10.1016/j.solmat.2017.11.008
  21. Alberola-Borràs, J. A., Vidal, R., & Mora-Seró, I. (2018). Evaluation of multiple cation/anion perovskite solar cells through life cycle assessment. *Sustainable Energy & Fuels*. DOI: 10.1039/C8SE00053K
  22. Sánchez-Pantoja, N., Vidal, R., & Pastor, M. C. (2018). Aesthetic perception of photovoltaic integration within new proposals for ecological architecture. *Sustainable Cities and Society*, 39, 203-214. DOI: 10.1016/j.scs.2018.02.027
  23. Vidal, R., Moliner, E., Martín, P. P., Fita, S., Wonneberger, M., Verdejo, E., ... & González, A. (2018). Life Cycle Assessment of Novel Aircraft Interior Panels Made from Renewable or Recyclable Polymers with Natural Fiber Reinforcements and Non-Halogenated Flame Retardants. *Journal of Industrial Ecology*, 22(1), 132-144. DOI: <https://doi.org/10.1111/jiec.12544>

24. Vidal, R., Alberola-Borràs, J. A., Gómez-Cordón, J., Moliner, E., Ortega, A., & Verdejo, E. (2017). LCA to evaluate the environmental impact for chemical pre-treatment in plastics metallization. *Journal of Polymers and the Environment*, 25(4), 961-972. DOI: 10.1007/s10924-016-0872-6
25. Majhi, K., Bertoluzzi, L., Keller, ... & Zaban, A. (2016) R. Vidal (7/11). Co<sub>3</sub>O<sub>4</sub> based all-oxide PV: a numerical simulation analyzed combinatorial material science study. *The Journal of Physical Chemistry C*, 120(17), 9053-9060. DOI: 10.1021/acs.jpcc.6b01164
26. Vidal, R., Salmeron, J. L., Mena, A., & Chulvi, V. (2015). Fuzzy Cognitive Map-based selection of TRIZ (Theory of Inventive Problem Solving) trends for eco-innovation of ceramic industry products. *Journal of Cleaner Production*, 107, 202-214. DOI: 10.1016/j.jclepro.2015.04.131
27. Vidal, R., Moliner, E., Pikula, A., Mena-Nieto, A., & Ortega, A. (2015). Comparison of the carbon footprint of different patient diets in a Spanish hospital. *Journal of health services research & policy*, 20(1), 39-44. DOI: 10.1177/1355819614553017

### C.3. Proyectos más relevantes desde 01-01-2015

1. PECATHS - PHOTO-ELECTROCATALYTIC ROUTES FOR LONG-TERM SUSTAINABLE HYDROGEN STORAGE. HORIZON-CL5-2024-D2-01-04. Grant: 101191948. Coordinador: J.A. Mata (UJI-INAM, Spain). 2025-01-01 / 2028-12-31. Participación: Investigadora.
2. RADIANT-CHIRAL LIGHT EMITTING DIODES BASED IN PHOTONIC ARCHITECTURES. EIC-2023-PATHFINDERCHALLENGES-01. Grant: 101162112. 2024-11-01 / 2027-10-31. Coordinador: A. Mihi (ICMAB-CSIC, Spain). Participación: Investigadora.
3. SUPERLASER - ROOM TEMPERATURE SUPERRADIANT PEROVSKITE LASER. EIC-2023-PATHFINDERCHALLENGES-01. Grant: 101162503. 2024-09-01 / 2027-08-31. Coordinadora: M. Vasilopoulou (NCSR "D", Greece). Participación: Investigadora.
4. HIGH-EFFICIENCY PEROVSKITES ON FLEXIBLE SUBSTRATES FOR SUSTAINABLE APPLICATIONS. HORIZON-CL5-2022-D3-03-05. 11/2023-10/2027. Participación: Investigadora.
5. CÉLULAS SOLARES SOSTENIBLES DE ALTO RENDIMIENTO Y ESTABILIDAD BASADAS EN PEROVSKITAS HÍBRIDAS IMPRESAS (PRINT-P). Plan Complementario "Programa de Materiales Avanzados" 2022. MFA/2022/020. Participación: Investigadora principal.
6. Q-SOLUTIONS. LOW DIMENSIONAL QUANTUM MATERIALS FOR ADVANCED SOLUTIONS IN OPTOELECTRONICS. GVA PROMETEO. CIPROM/2021/078 IVÁN MORA SERÓ. Investigador principal: Iván Mora-Seró, Beatriu Escuder Gil. 2022-01-01 to 2025-12-31. Investigadora.
7. NUEVAS PEROVSKITAS DE HALURO OBTENIDAS MEDIANTE LA ESTABILIZACIÓN DE LA FASE PEROVSKITA A TRAVÉS DE LA ENERGÍA SUPERFICIAL PARA DISPOSITIVOS OPTOELECTRÓNICOS AVANZADOS (STABLE). AEI Retos Investigación. PID2019-107314RB-I00. 01/06/2020 - 31/05/2023. 242.000 €. IP: Iván Mora-Seró y Beatriz Julián López (UJI). Participación: Investigadora.
8. ANÁLISIS AMBIENTAL DE LA ESCALABILIDAD DE LA TECNOLOGÍA DE PEROVSKITAS HACIA EL CAMINO DE SU COMERCIALIZACIÓN. PRX19/00378. MCIU. 01/09/2019-30/11/2019. Estancia en NREL-Estados Unidos.
9. H2020-MSCA-ITN-2017. 764787. MAESTRO. "MAKING pErovskiteS TRuly exploitable". 1.11.2017 – 31.10.2021. Coordinador: A. Parker, Universidad de Bath (UK).
10. PROMETEO/2018/098. Sistemas cuánticos para el desarrollo de dispositivos optoelectrónicos (Q-Devices). IP: Iván Mora-Seró (UJI).
11. IDIFEDER/2018/013. CENTRO DE INVESTIGACIÓN EN ROBÓTICA Y TECNOLOGÍAS SUBACUÁTICAS - CIRTESU. IP: Pedro J. Sanz (UJI). IP de subgrupo de investigación.
12. ENVIRONMENTAL ASSESSMENTS IN THE GREEN PROCUREMENT FRAMEWORK. EASME 2015. Coordinador: Eva Verdejo (AIMPLAS). 01/10/2015-31/03/2018. Investigadora Principal subproyecto.
13. DESARROLLO DE DISPOSITIVOS ORGANICO-INORGANICO DE BAJO COSTE CON PEROVSKITAS PARA CONVERSION DE ENERGIA SOLAR. Retos de la Sociedad. MAT2013-47192-C3-1-R. 01/01/2014 - 31/12/2016.: Juan Bisquert; Iván Mora Seró. Participación: Investigadora.
14. 309018, ALLOXIDEPV: NOVEL COMPOSITE OXIDES BY COMBINATORIAL MATERIAL SYNTHESIS FOR NEXT GENERATION ALL-OXIDE-PHOTOVOLTAICS. FP7 – The European Commission. FP7-ENERGY-2012-1. Coordinador: Arie Zaban (Bar Ilan Institute for Nanotechnology and Advanced Materials, Israel). 01/11/2012-30/10/2015. Participación: Investigadora.