



Fecha del CVA	10/10/2022
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Parte A. DATOS PERSONALES

Nombre	Rosario María		
Apellidos	Sánchez Martín		
Sexo (*)	Female	Fecha de nacimiento (dd/mm/yyyy)	20/08/1974
DNI, NIE, pasaporte	25333058F		
Dirección email	rmsanchez@ugr.es	URL Web	https://investigacion.ugr.es/ugrinvestiga/static/Buscador/*/investigadores/ficha/27654
Open Researcher and Contributor ID (ORCID) (*)	0000-0001-8912-9799		

* datos obligatorios

A.1. Situación profesional actual

Puesto	Senior Lecturer (Profesor Titular de Universidad)		
Fecha inicio	2011		
Organismo/ Institución	University of Granada		
Departamento/ Centro	Pharmaceutical and Organic Chemistry_Faculty of Pharmacy& GENYO		
País	Spain	Teléfono	+34958715500
Palabras clave	Nanotechnology, nanomedicine		

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

Periodo	Puesto/ Institución/ País / Motivo interrupción
2011 -	Group leader NANOCHEMIBIO lab (CTS987) / UGR- Centro de investigación GENYO
2006-2010	Academic researcher _Royal Society research Fellow / University of Edinburgh
2005-2005	Postdoctoral Research Assistant / University of Edinburgh
2002 - 2005	Postdoctoral fellow at University of Southampton (UK)

A.3. Formación Académica

Grado/Master/Tesis	Universidad/Pais	Año
PhD in Pharmacy	Universidad de Granada (UGR)/Spain	2002
Degree in Pharmacy	Universidad de Granada (UGR)/Spain	1997

Parte B. RESUMEN DEL CV (máx. 5000 caracteres, incluyendo espacios): MUY IMPORTANTE: se ha modificado el contenido de este apartado para progresar en la adecuación a los principios DORA. Lea atentamente las "Instrucciones para cumplimentar el CVA"

- My main scientific-technical achievements and research activity, obtained during the last 20 years, are developed in the area of nanotechnology in biomedicine, and they focused on the development of nanotechnology-based platforms for diagnosis and personalized medicine. The generated knowledge has been communicated in 61 publications in top peer-reviewed journals (51 Q1), including Nature Chem (IF: 26,76), Nature Protocols (IF: 13,47), Acc Chem Res (IF: 24,37), among others, being corresponding author of 20 of them. I reached 1389 citations by 955 documents and a



h-index of 23 (SCOPUS data), and I have participated in more than 40 international conferences, including 25 oral communications (10 talks as invited speaker). I have obtained more than 996.678,46 € in national and international projects in the last 5 years. Since 2012 I am principal investigator and leader of NanoChemBio research group, in Centre for Genomics and Oncological Research (GENyO).

- My **contribution to society** includes collaborations with private sector, such as R&D contracts with an international biotech, DestiNA Genomics Ltd., to develop novel smart chemical tools to detect nucleic acids for diagnostic applications; or commercial relationship with Fidia Farmaceutici spa (Italy) to exploit one of the four patents of which I am coinventor. Additionally, I founded NanoGetic SL, a start-up nanotechnology company, in 2013, being its Chief of the Scientific Advisory Board since then. I have also established close collaborations with local and national clinicians and biomedicine experts. I have participated in many dissemination activities, such as the European Researchers' Night, Science Week in Andalucía and international dissemination event Pint of Science.

- I have experience in **training young investigators**, supervising in the last 5 years 7 postdoctoral researchers, 12 PhD students, including an international PhD program with the University of Catania (Italy), and 15 master students. I also participates in the Mentoring Program of UGR, I am member of the organization committee of the scientific conferences organized at GENyO and master in Translational Research of the UGR, as well as member of COST actions Nano2clinic and DARTER, The European Platform on Nanomedicine (ETPN) and the NanoCARE network. I have also been member of the Editorial Advisory Board of Anticancer Agents Med Chem. journal (2017-2019), and participated in the evaluation of the calls for proposals Juan de la Cierva Incorporación 2019, 'Innovative Training Networks' H2020-MSCA-ITN-2018, Programa Estatal Proyectos de I+D+i Retos Investigación 2017 and Ayudas a proyectos de Investigación 2017 de la Consejería de Educación de Castilla-La Mancha.

- I obtained my PhD in Pharmacy in 2002 and I spent 9 years in the UK, first as postdoctoral fellow at the University of Southampton and then, in 2006, as independent researcher at the University of Edinburgh. There I took an academic position at the School of Chemistry, being awarded the prestigious Dorothy Hodgkin Fellowship from the Royal Society. In 2011 I moved to the UGR, where I promoted to Permanent Lecturer after a competitive process. In the same year I was awarded a Marie Curie CIG reintegration fellowship.

Parte C. LISTADO DE APORTACIONES MÁS RELEVANTES (últimos 10 años)-

C.1. Publicaciones más importantes en libros y revistas con “peer review” y conferencias (ver instrucciones). AC: autor de correspondencia; (nº x / nº y): posición / autores totales. Si aplica, indique el número de citas y promedio por año

Article. Agustín Robles-Remacho, M Angelica Luque-Gonzalez, F Javier López-Delgado, Juan J Guardia-Monteaquedo, Mario Antonio Fara, Salvatore Pernagallo, Rosario M Sanchez-Martin, Juan Jose Diaz-Mochon. (2023). Direct detection of alpha satellite DNA with single-base resolution by using abasic Peptide Nucleic Acids and Fluorescent in situ Hybridization. Biosensors and Bioelectronics, 219, 114770. IF: 12.545 (D1), AC.

Article. Patricia Altea-Manzano, Anke Vandekerke, Joy Edwards-Hicks, Mar Roldan, Emily Abraham, Xhordi Lleshi, Ania Naila Guerrieri, Domenica Berardi, Jimi Wills, Jair Marques Junior, Asimina Pantazi, Juan Carlos Acosta, Rosario M Sanchez-Martin, Sarah-Maria Fendt, Miguel Martin-Hernandez, Andrew J Finch. Reversal of mitochondrial malate dehydrogenase 2 enables anaplerosis via redox rescue in respiration-deficient cells. Molecular Cell 82, 1–11, 2022. IF: 19.328 (D1).

Article. Delgado Gonzalez, Antonio; Laz Ruiz, Jose Antonio; Cano Cortés, Maria Victoria; Huang, Ying-Wen; Gonzalez, Veronica D; Díaz Mochon, Juan Jose; Fantl, Wendy J; Sanchez Martin, Rosario M. (2022). Hybrid Fluorescent Mass-Tag Nanotrackers as Universal Reagents for Long-Term Live-Cell Barcoding Analytical Chemistry. ACS 94(30) 10626-10635. 2021 IF: 8.008 (D1).AC.

Article. Aguilar Gonzalez, Araceli; Gonzalez Correa, Juan Elias; Barriocanal Casado, Eliana; [...], Sánchez Martín, Rosario M., et al;. (2022). Isogenic GAA-KO Murine Muscle Cell Lines Mimicking Severe Pompe Mutations as Preclinical Models for the Screening of Potential Gene Therapy Strategies Int J Mol Sci. MDPI. 23 (11), 6298. 2021 IF: 6.208 (Q1). 11/13.



Article. Espejo Román, Jose M; Rubio Ruiz, Belen; Cano Cortes, M Victoria; Cruz Lopez, Olga; Gonzalez Resines, Saul; Domene, Carmen; Conejo Garcia, Ana; Sanchez Martin, Rosario M. (2022). Selective Anticancer Therapy Based on a HA-CD44 Interaction Inhibitor Loaded on Polymeric Nanoparticles. *Pharmaceutics*. 14 (4), 788. IF 6.525 (Q1). AC.

Article. Cano-Cortes, M. V., Altea-Manzano, P., Laz-Ruiz, J. A., Unciti-Broceta, J. D., Lopez-Delgado, F. J., Espejo-Roman, J. M., Diaz-Mochon, J. J., & Sánchez-Martin, R. M. (2021). An effective polymeric nanocarrier that allows for active targeting and selective drug delivery in cell coculture systems. *Nanoscale*, 13(6), 3500–3511. 2020 IF: 7.79 (Q1).

Article. Robles-Remacho, A., Luque-González, M. A., [...] Sánchez-Martín, R. M., (CA) & Díaz-Mochón, J. J. (CA) (2021). Development of a nanotechnology-based approach for capturing and detecting nucleic acids by using flow cytometry. *Talanta*, 226, 122092. Pos. 9/8. 2020 IF: 6.057 (Q1).

Article. Delgado-Gonzalez, A., & Sánchez-Martin, R. M. (2021). Mass Cytometry Tags: Where Chemistry Meets Single-Cell Analysis. *Analytical chemistry*, 93(2), 657–664. 2020 IF: 6.986 (D1).

Article. Cano-Cortes, M. V., Navarro-Marchal, S. A., Ruiz-Blas, M. P., Diaz-Mochon, J. J., Marchal, J. A., & Sánchez-Martin, R. M. (2020). A versatile theranostic nanodevice based on an orthogonal bioconjugation strategy for efficient targeted treatment and monitoring of triple negative breast cancer. *Nanomedicine: nanotechnology, biology, and medicine*, 24, 102120. 2020 IF: 6.458 (Q1).

Article. Cano-Cortes, M. V., Laz-Ruiz, J. A., Diaz-Mochon, J. J., & Sánchez-Martín, R. M. (2020). Characterization and Therapeutic Effect of a pH Stimuli Responsive Polymeric Nanoformulation for Controlled Drug Release. *Polymers*, 12(6), 1265. 2020 IF: 4.329 (Q1). Open Access.

Article. Marín-Romero, A., Tabraue-Chávez, M., Dear, J. W., [...] Díaz-Mochón, J. J., (CA) & Pernagallo, S. (CA) (2020). Amplification-free profiling of microRNA-122 biomarker in DILI patient serums, using the luminex MAGPIX system. *Talanta*, 219, 121265. Pos. 10/4. 2020 IF: 6.057 (Q1).

Article. Delgado-Gonzalez, A., Robles-Remacho, A., Marin-Romero, A., [...], Diaz-Mochon, J. J. (CA) (2019). PCR-free and chemistry-based technology for miR-21 rapid detection directly from tumour cells. *Talanta*, 200, 51–56. Pos. 13/12. 2019 IF: 5.339 (Q1).

C.2. Congresos, indicando la modalidad de su participación (conferencia invitada, presentación...)

- 1. Plenary lecture.** Sánchez-Martín R.M.; Therapeutic and diagnostic applications of multifunctional polymeric nanoparticles. SBAN 2020 3rd Spanish Conference on Biomedical Applications of Nanomaterials. 03/09/2020-10/09/2020. Virtual. National congress.
- 2. Selected talk.** Sánchez-Martín R.M.; Active targeting polymeric nanoparticles as diagnostic tools. ETPN 2020 MEETING. 14/10/2020-15/10/2020. Virtual. International congress.
- 3. Keynote speaker.** Sánchez-Martín R.M.; Nanotechnology based approaches for Cancer Diagnosis and Therapy. Euro Nanomat 2019: 32nd International Conference on Nanoscience, Nanotechnology and Nanoengineering. 18/09/2019-19/09/2019. Rome (Italy). International congress.
- 4. Keynote speaker/Moderator.** Sánchez-Martín R.M.; Cancer Therapy and diagnosis using Engineered Nanoparticles. 3rd World Congress on Cancer and Prevention Methods. 05/04/2017-07/04/2017. Barcelona (Spain). International congress.
- 5. Invited talk.** Sánchez-Martín R.M.; Development of a multifunctional nanodevice to treat breast cancer. ICONAN 2017 International Conference On Nanomedicine and Nanobiotechnology. 25/09/2017-27/09/2017. Barcelona (Spain). International congress.

C.3. Proyectos o líneas de investigación en los que ha participado, indicando su contribución personal.

- 1.** a) 101007934; b) DiaRNAgnosis: A novel platform for the direct profiling of circulating cell-free ribonucleic acids in biofluids; c) Horizon 2020, H2020-EU.1.3; d) Coordinator: Salvatore Pernagallo (DestINA Genomica). IPs: Sánchez-Martín R.M. and Orte Gutierrez A. (UGR); e) 01/01/2021-31/12/2024; f) 759.000 €; g) Principal investigator.
- 2.** a) PID2019-110987RB-I00; b) Una nueva plataforma de diagnóstico de biopsia líquida: detección COMBO de proteínas y ARN en exosomas individuales; c) Ministerio de Economía y Competitividad, Convocatoria 2019 - Proyectos de I+D+i; d) IP1: Sánchez-Martín R.M., IP2; Diaz-Mochon, J. J. (UGR); e) 01/06/2020-31/05/2023; f) 157.300 €; g) Principal investigator.



3. a) P-18-TP-4160; b) Nano-GE-PNA-Desarrollo de una plataforma nanotecnológica para reprogramación celular in situ mediante edición génica basada en ácido nucleicos peptídicos; c) Proyectos de I+D+i de Agentes del Sistema Andaluz del Conocimiento 2018, (PAIDI 2020), Proyectos de investigación en colaboración con el tejido productivo; d) Sánchez-Martín R.M. (UGR); e) 20/10/2020-19/10/2023; f) 141.764,71€; g) Principal Investigator.
4. a) BIO2016-80519-R; b) Detección de ácidos nucleicos circulantes y sus mutaciones mediante protocolos pcr-free. Integración de nanotecnología, química dinámica y citometría de masas; c) Ministerio de Economía y Competitividad, Convocatoria 2016 - Proyectos de I+D+i; d) IP1 Sánchez-Martín R.M. y IP2 Diaz-Mochon, J. J. (UGR); e) 30/12/2016-29/06/2020; f) 140.000 €; g) Principal Investigator.
5. a) PIP-0232-2021; b) Desarrollo de ensayos diagnósticos basados en anticuerpos de dominio único frente a nuevos biomarcadores de tumores; c) Consejería de Salud y Familias, Junta de Andalucía, Subvenciones para la financiación de la Investigación, Desarrollo e Innovación Biomédica y en Ciencias de la Salud en Andalucía; d) Sánchez-Martín R.M. (IBS Granada); e) 01/12/2021-01/12/2024; f) 107,643.45 €; g) Principal Investigator.
6. a) PVT-PSETC-2.0; b) Nanosistema multifuncionalizado con aplicación teragnóstica en cáncer; c) UGR, Programa De Valorización De Tecnologías: Proyectos Singulares Estratégicos de Transferencia de Conocimiento; d) Sánchez-Martín R.M. (UGR); e) 1/11/2019-30/04/2021; f) 118.070,00€; g) Principal Investigator.
7. a) DTS18/00121; b) Nano3Devices: Nanosistema multifuncionalizado con aplicación teranóstica en cáncer; c) Instituto de Salud Carlos III, Proyectos de Desarrollo Tecnológico en Salud; d) Sánchez-Martín R.M. (UGR); e) 01/01/2019-31/12/2021; f) 78.650 €; g) Principal Investigator.

C.4. Participación en actividades de transferencia de tecnología/conocimiento y explotación de resultados

Contracts

1. Contrato OTRI-UGR 4765. Entidad financiadora: Nanogetic SL. Proyecto: Hyaluspheres - an excipient for an efficient subcutaneous (SC) delivery of therapeutics.16/03/2021-30/09/2021. Sánchez Martín, RM (UGR). 5.800 €.
2. Programa de Valorización de Tecnologías: Proyectos Singulares Estratégicos de Transferencia de Conocimiento (PVT-PSETC-2.0). Subproyecto 3: Nanosistema multifuncionalizado con aplicación teragnóstica en cáncer PVT-PSETC-2.0-PSETC-3. Junta de Andalucía. Sánchez-Martín, R.M. (UGR). 31/10/2019- 30/04/2021. 118.070 €.
3. Desarrollo de kits de diagnóstico molecular basados en PCR multiplex para identificación de mutaciones puntuales en patologías tumorales e infecciosas. DestiNA Genómica S.L. Sánchez-Martín, R.M. (UGR). 16/10/2014-16/04/2016. 62.630,00 €.

Technology transference activities

1. Rosario M. Sánchez-Martín co-founded NanoGetic S.L. in 2013.
2. Rosario M. Sánchez-Martín Chief of Advisory Board of NanoGetic S.L.: 2013 – present.

Patents

1. a) Sánchez-Martín, R.M., Marchal Corrales J.A., Diaz-Mochón, J.J., Cano Cortes V., Navarro Marchal S.A., Ruiz Blas M.P.; b) PCT/ES2019/070259; c) Nanopartículas Multifuncionales Para Teragnosis; d) Spain, Europe, USA; e) 05/10/2018; f) UGR, registered.
2. a) Garcia Fernandez E., Valero Griñan T., Orte Gutierrez A., Sánchez-Martín, R.M., Delgado Gonzalez A., Diaz-Mochón, J.J; b) P201730777; c) Sondas Duales para Citometría de Flujo y Citometría de Masas; d) Spain; e) 07/06/2017; f) UGR, Registered.
3. a) Sánchez-Martín, R.M., Pernagallo, S., Unciti-Broceta, JD, Messina, L. Vaccaro, S., Pilotto, P; b) 802014000001376 (PCT/IB2016/057824); c) Nanosystem for selective delivery of active molecules with diagnostic, prognostic and therapeutic applications; d) Spain, Italy; e) 21/12/2015; f) Nanogetic S.L., Fidia Farmaceutici.
4. a) Serrano,M.J., Díaz-Mochón, J.J, Ortega, F.G., Lorente, J.A. Garcia-Puche, J.L., Ruiz-Blas, M.P., Sánchez-Martín, R.M; b) P201431357; c) Procedure to detect circulating tumor cells by using miRNA-21 as a biomarker; d) Spain; e) 18/09/2014; f) Servicio Andaluz de Salud (SAS) & UGR, registered.