Prof. Dr. Noemí de-los-Santos-Álvarez

Full Professor of Analytical Chemistry

University of Oviedo

EDUCATION

- PhD in Analytical Chemistry at University of Oviedo (with honours) 2002
- Bachelor in Chemistry at University of Oviedo (with honours) 1997

PROFESSONAL APPOINTMENTS

- Professor of Analytical Chemistry at University of Oviedo 04/2022-current
- Associate Professor at University of Oviedo 12/2017-04/2022
- Assistant Professor at University of Oviedo 05/2014-12/2017
- Ramón y Cajal Postdoctoral Researcher at University of Oviedo 05/2009-05/2014
- Clarín Postdoctoral Researcher at University of Oviedo 11/2007-05/2009
- Postdoctoral Researcher at University of Oviedo 01/2006-06/2007
- Postdoctoral Fellowship at Cornell University (USA) 06/2004-12/2005
- Postdoctoral Researcher at University of Oviedo 05/2003-05/2004

AWARDS AND HONOURS

- S. Alberto Magno Research Award 2001

PROFESSIONAL ACTIVITIES

- Editorial Advisor of Analytica Chimica Acta 2020-current
- Editorial Advisor of Microchemical Journal 2023-current
- Board Member Scientific System of Colombia 2018
- Board Member ANEP Ramón y Cajal Program 2014, 2025
- Board Member ANEP Juan de la Cierva Program 2013
- Reviewer of national projects: Spain, Argentina, Poland and Slovakia since 2010
- Guess Editor: Electrochimica Acta, Sensors, Frontiers in Chemistry

SELECTED PUBLICATIONS (lastest years)

1. M. Casian, O. Hosu-Stacioiu, I. Manea, D. Suárez, N. Díaz, M. J. Lobo Castañón, N. de-los-Santos-Álvarez, C. Cristea, *Disposable electrochemical aptasensor for rapid and selective vancomycin detection in clinical samples: Bridging affinity selection, computational modeling and clinical validation,* Anal. Chim. Acta, 1374 (2025) 344519 doi: 10.1016/j.aca.2025.344519

2. M. Aller Pellitero, P. S. Sfragano, N. de-los-Santos-Álvarez, M. J. Lobo-Castañón, *Revealing the impact of temperature on electrochemical, DNA-based sensors to correct signaling fluctuations,* Sens. Actuators B, 443 (2025) 138279 https://doi.org/10.1016/j.snb.2025.138279

3. M. Casian, I. Manea, O. Hosu-Stancioiu, M.J. Lobo-Castañón, N. de-los-Santos-Álvarez, C. Cristea, *Targeting hepatocellular carcinoma with aptamers: from biomarker detection to therapeutic applications,* Trend in Anal. Chem. 191 (2025) 118346 https://doi.org/10.1016/j.trac.2025.118346

4. A. Díaz-Fernández, Carmen S. Ciudad, N. Díaz, D. Suárez, Noemí de-los-Santos- Álvarez, M. J. Lobo-Castañón, *Refinement and Truncation of DNA Aptamers based on Molecular Dynamics Simulations: Computational Protocol and Experimental Validation,* J. Chem. Inf. Model. 65, 2025, 4128-4136 10.1021/acs.jcim.5c00243,

5. Inés Díaz-Martínez, R. Miranda-Castro, N. de-los-Santos-Álvarez, M.J. Lobo-Castañón, *Lectin-mimicking aptamer as a generic glycan receptor for sensitive detection of glycoproteins associated with cancer*, Anal. Chem. 96, 2024, 2759-2763 10.1021/acs.analchem.3c05891

6. I. *Manea*, M. Casian, O. Hosu-Stancioiu, N. de-los-Santos-Álvarez, M.J. Lobo-Castañón, C. Cristea, *A review on magnetic beads-based SELEX technologies: Applications from small to large target molecules,* Anal. Chim. Acta 1297, 2024, 342325 10.1016/j.aca.2024.342325

7. A. Díaz-Fernández, N. de-los-Santos-Álvarez, M.J. Lobo-Castañón, *Capacitive spectroscopy as transduction mechanism for wearable biosensors: opportunities and challenges,* Anal. Bioanal. Chem. 416, 2024, 2089-2095 https://doi.org/10.1007/s00216-023-05066-y

8. R. Sánchez-Salcedo, R. Miranda-Castro, N. de-los-Santos-Álvarez, M. J. Lobo-Castañón, D. K. Corrigan, *Comparing nanobody and aptamer-based capacitive sensing for detection of interleukin-6 (IL-6) at physiologically relevant levels,* Anal. Bioanal. Chem., 415, 2023, 7035-7045 https://doi.org/10.1007/s00216-023-04973-4

9. M. Aller Pellitero, N. de-los-Santos-Álvarez, M.J. Lobo-Castañón, *Aptamer-based electrochemical approaches to meet some of the challenges in the fight against cancer*, Current Opinion in Electrochemistry, 39, 2023, 101286 doi: 10.1016/j.coelec.2023.101286

10. R. Sánchez-Salcedo, R. Miranda-Castro, N. de-los-Santos-Álvarez, D.l Fernández-Martínez, L. J. García-Flórez, M. J. Lobo-Castañón, A*n electrochemical genosensing platform for the relative quantification of the circulating long noncoding RNA CCAT1 to aid in the diagnosis of colorectal cancer*, Sens. Act. B, 376, 2022, 132940 doi: 10.1016/j.snb.2022.132940

11. C. Muñoz-San Martín, A. Montero-Calle, M. Garranzo-Asensio, M. Gamella, V. Pérez-Ginés, M. Pedrero, J. M. Pingarrón, R. Barderas, N. de-los-Santos-Álvarez, M. J. Lobo-Castañón, S. Campuzano, *First bioelectronic immunoplatform for quantitative secretomic analysis of total and metastasis-driven glycosylated haptoglobin*, Anal. Bioanal. Chem., 415, 2023, 2045-2057 doi: 10.1007/s00216-022-04397-6

12. R. Sánchez-Salcedo, P. Gómez-Meijide, R. Miranda-Castro, N. de-los-Santos-Álvarez, M.J. Lobo-Castañón, *Electrochemical sensors using oligonucleotides as recognition ligands for liquid biopsy in prostate cancer*, Biosens. Bioelectron. X, 2022, 100227

13. R. Lorenzo-Gómez, A. Casero-Álvarez, R. Miranda-Castro, M. García-Ocaña, J. R. de los Toyos, N. de-los-Santos-Álvarez, M.J. Lobo-Castañón, *A competitive assay for the detection of a 16-mer peptide from α1 chain of human collagen XI*, Talanta 240, 2022, 123196

14. N. de-los-Santos-Álvarez, I. Palchetti, *Editorial: Electrochemical Aptasensors are gaining momentum,* Electrochim. Acta, 401, 2022, 139520

15. R. Lorenzo-Gómez, R. Miranda-Castro, J. R. de los Toyos, N. de-los-Santos-Álvarez, M.J. Lobo-Castañón, *Aptamers targeting a tumor-associated extracellular matrix component: the human mature collagen XIα1*, Anal. Chim. Acta, 1189, 2022, 339206

16. R. Lorenzo-Gómez, R. Miranda-Castro, N. de-los-Santos-Álvarez, M.J. Lobo-Castañón, *Bioanalytical methods for circulating extracellular matrix-related proteins: new opportunities in cancer diagnosis*, Anal. Bioanal. Chem 414, 2022, 147-165

17. R. Sánchez-Salcedo, R. Miranda-Castro, N. de-los-Santos-Álvarez, M.J. Lobo-Castañón, Dual electrochemical genosensor for early diagnosis of prostate cancer through lncRNAs detection, Biosens. Bioelectron., 192, 2021, 113520

18. A. Díaz-Fernández R. Miranda-Castro, N. de-los-Santos-Álvarez, M.J. Lobo-Castañón, P. Estrela, *Impedimetric aptamer-based glycan PSA score for discrimination of prostate cancer from other prostate diseases*, Biosens. Bioelectron. 175, 2021, 112872

19. C. Abardía-Serrano, R. Miranda-Castro N. de-los-Santos-Álvarez, M.J. Lobo-Castañón, *New Uses for the Personal Glucose Meter: Detection of Nucleic Acid Biomarkers for Prostate Cancer Screening,* Sensors, 20, 2020, 5514

20. A. Díaz-Fernández R. Miranda-Castro, N. Díaz, Dimas Suárez, N. de-los-Santos-Álvarez, M.J. Lobo-Castañón, *Aptamers targeting protein-specific glycosylation in tumor biomarkers: general selection, characterization and structural modeling*, Chemical Science, 11, 2020, 9402,

21. R. Svigelj, N. Dossi, S. Pizzolato, R. Toniolo, R. Miranda-Castro N. de-los-Santos-Álvarez, M.J. Lobo-Castañón, *Truncated aptamers as selective receptors in a gluten sensor supporting direct measurement in a deep eutectic solvent*, Biosens. Bioelectron. 165, 2020,

22. A. Díaz-Fernández, R. Lorenzo-Gómez, R. Miranda-Castro, N. de-los-Santos-Álvarez, M.J. Lobo-Castañón, *Electrochemical aptasensors for cancer diagnosis in biological fluids – A review*, Anal. Chim. Acta, 1124, 2020, 1-19

23. R. Lorenzo-Gómez, D. González-Robles, R. Miranda-Castro, N. de-los-Santos-Álvarez, M.J. Lobo-Castañón, *On the electrochemical detection of alpha-fetoprotein using aptamers: DNA isothermal amplification strategies to improve the performance of weak aptamers*, Biosensors 10, 2020, 46;

24. N. de-los-Santos-Álvarez, R. Miranda-Castro, I. Palchetti, *The translational potential of electrochemical DNA-based liquid biopsy*, Frontiers in Chemistry, 8, 2020, 143

25. A. Plácido, F, Ferreira-da-Silva, J,R, S. A. Leite, N. de-los-Santos-Álvarez, C, Delerue-Matos, *A convenient renewable surface plasmon resonance chip for relative quantification of genetically modified soybean food and feed*, Plos One 15(2) 2020, e0229659

26. J. B. Sousa, J. Ramos-Jesus, L.C. Silva, C. Pereira, N. de-los-Santos-Álvarez, R.A.S. Fonseca, R. Miranda-Castro, C. Delerue-Matos, J. Ribeiro Santos Júnior, M.F. Barroso, *Fe3O4@Au nanoparticles-based magnetoplatform for the HMGA maize endogenous gene electrochemical genosensing,* Talanta 206, 2020, 120220

27. R. Lorenzo-Gómez, N Fernández-Alonso, R. Miranda-Castro N. de-los-Santos-Álvarez, M.J. Lobo-Castañón, *Unravelling the lipocalin 2 interaction with aptamers: May Rolling Circle Amplification improve their functional affinity?*, Talanta 197, 2019, 406-412

28. R. Miranda-Castro, N. de-los-Santos-Álvarez, M.J. Lobo-Castañón, *Long noncoding RNAs: from genomic junk to rising stars in the early detection of cancer*, Anal. Bioanal.Chem., 411, 2019, 4265-4275

29. A. Díaz-Fernández, R. Miranda-Castro N. de-los-Santos-Álvarez, E. Fernández-Rodríguez, M.J. Lobo-Castañón, *Focusing aptamer selection on the glycan structure of prostate-specific antigen: Toward more specific detection of prostate cancer*, Biosens. Bioelectron. 128, 2019, 83-90

30. A. Plácido, Clara Pereira, A. Guedes, M.F. Barroso, N. de-los-Santos-Álvarez, C. Delerue-Matos, *Chronoamperometric magnetogenosensing for simultaneous detection of two Roundup Ready™ soybean lines: GTS 40-3-2 and MON89788*, Sens. Act. B: Chemical, 283, 2019, 262-268

31. R. Lorenzo-Gómez, R. Miranda-Castro N. de-los-Santos-Álvarez, M.J. Lobo-Castañón, *Electrochemical aptamer-based assays coupled to isothermal nucleic acid amplification techniques: new tools for cancer diagnosis*, Current Opinion in Electrochemistry 14, 2019, 32-43

32. R. Sánchez-Salcedo, R. Miranda-Castro N. de-los-Santos-Álvarez, M.J. Lobo-Castañón, *On-gold recombinase polymerase primer elongation for electrochemical detection of bacterial genome: mechanism insights and influencing factors*, ChemElectroChem, 6, 2019, 793-800

33. R. Svigelj, N. Dossi, R. Toniolo, R. Miranda-Castro N. de-los-Santos-Álvarez, M.J. Lobo-Castañón, *Selection of anti-gluten DNA aptamers in a deep eutectic solvent*, Angewandte Chem. Int Ed. 57, 2018. 12850-12854,

34. S. Barreda-García, R. Miranda-Castro N. de-los-Santos-Álvarez, M.J. Lobo-Castañón, S*equence-specific electrochemical detection of enzymatic amplification products of Salmonella genome on ITO electrodes improves pathogen detection to the single copy level,* Sens. Act. B: Chemical 268, 2018, 438-445

35. A. Plácido, C. Pereira, A. Guedes, M.F. Barroso, R. Miranda-Castro, N. de-los-Santos-Álvarez, C. Delerue-Matos, *Electrochemical genoassays on gold-coated magnetic nanoparticles to quantify genetically modified organisms (GMOs) in food and feed as GMO percentage*, Biosens. Bioeletron., 110, 2018, 147-154

36. R. Miranda-Castro N. de-los-Santos-Álvarez, M.J. Lobo-Castañón, Understanding the factors affecting the analytical performance of sandwich-hybridization genosensors on gold electrodes, Electroanalysis, 30, 2018, 1229-1240,

37. A. Díaz-Fernández, R. Miranda-Castro N. de-los-Santos-Álvarez, M.J. Lobo-Castañón, *Post-translational modifications in tumor biomarkers: the next challenge for aptamers?*, Anal. Bioanal. Chem. 410, 2018, 2059-2065

38. S. Barreda-García, R. Miranda-Castro N. de-los-Santos-Álvarez, A.J. Miranda-Ordieres, M.J. Lobo-Castañón, *Helicase-dependent isothermal amplification: a novel tool in the development of molecular-based analytical systems for rapid pathogen detection*, Anal. Bioanal. Chem. 410, 2018, 679-693,

39. S. Barreda-García, R. Miranda-Castro N. de-los-Santos-Álvarez, A.J. Miranda-Ordieres, M.J. Lobo-Castañón, *Solid-phase helicase dependent amplification and electrochemical detection of Salmonella on highly stable oligonucleotide-modified ITO electrodes*, Chem. Commun. 53, 2017, 9721-9724

40. S. Moura-Melo, R. Miranda-Castro N. de-los-Santos-Álvarez, A.J. Miranda-Ordieres, J. Ribeiro Dos Santos Junior, R.A. da Silva Fonseca, M.J. Lobo-Castañón, *A quantitative PCR-electrochemical genosensor test for the screening of biotech crops*, Sensors, 17, 2017, 881

41. R. Miranda-Castro, R. Sánchez-Salcedo, B. Suárez-Álvarez, N. de-los-Santos-Álvarez, Arturo J. Miranda-Ordieres, M.J. Lobo-Castañón, *Thioaromatic DNA monolayers for target-amplification-free electrochemical sensing of environmental pathogenic bacteria*, Biosens. Bioelectron.92, 2017, 162-

42. L. López-López, R. Miranda-Castro, N. de-los-Santos-Álvarez, A.J. Miranda-Ordieres, M.J. Lobo-Castañón, *Disposable electrochemical aptasensor for gluten determination in food*, Sens.Actuat. B: Chemical 241, 2017, 522-527

43. B. Martín-Fernández, L. Manzanares-Palenzuela, M. Sánchez-Paniagua López, N. de-los-Santos-Álvarez, B. López-Ruiz, *Electrochemical Methods based on DNA in Food Safety Assessment*, Critical Reviews in Food Science and Nutrition, 57(13), 2017, 2758-2774

BOOK CHAPTERS

1. R. Miranda-Castro, N. de-los-Santos-Álvarez, M.J. Lobo-Castañón, Aptamer-based magnetoassay for gluten determinations, Chapter 22, 221-229; In Laboratory Methods in Dynamic Electroanalysis, Fernández-Abedul M.T. Ed., 2020, Elsevier (The Netherlands), ISBN: 9780128159323

2. N. de-los-Santos-Álvarez, R. Miranda-Castro, M.J. Lobo-Castañón, Impedimetric aptasensor for determination of antibiotic neomycin B, Chapter 11, 109-118;, In Laboratory Methods in Dynamic Electroanalysis, Fernández-Abedul M.T. Ed., 2020, Elsevier (The Netherlands), ISBN: 9780128159323

3. R. Miranda-Castro, N. de-los-Santos-Álvarez, M.J. Lobo-Castañón, Amperometric detection of NADH using carbon-based electrodes, Chapter 7, 67-74; In Laboratory Methods in Dynamic Electroanalysis, Fernández-Abedul M.T. Ed., 2020, Elsevier (The Netherlands), ISBN: 9780128159323,

4. N. de-los-Santos-Álvarez, M.T. Fernández-Abedul, Determination of ascorbic acid in dietary supplements by cyclic voltammetry, Chapter 2, 13-23; In Laboratory Methods in Dynamic Electroanalysis, Fernández-Abedul M.T. Ed., 2020, Elsevier (The Netherlands), ISBN: 9780128159323

5. R. Miranda-Castro, N. de-los-Santos-Álvarez, M.J. Lobo-Castañón, Characterization of aptamer-ligand complexes, Chapter 4, 127-172, In Aptamers for Analytical Applications: Affinity Acquisition and Method Design, Ed. Y. Dong, 2018, Wiley-VCH Verlag GmbH & Co. ISBN: 978-3-527-34267-9

6. R. Miranda-Castro, N. de-los-Santos-Álvarez, M.J. Lobo-Castañón, Aptamers as synthetic receptors for food quality and safety control. Chapter 6, 155-191 Vol 74: Biosensors for sustainable food: new opportunities and technical challenges, V.Scognamiglio, G. Rea, F. Arduini and G. Palleschi Eds, in Comprehensive Analytical Chemistry, 2016, Elsevier (The Netherlands). Electronic ISBN: 978-0-444-63580-8

7. B. López-Ruiz, M. Sánchez-Paniagua, A.J. Miranda-Ordieres, N. de-los-Santos-Álvarez, Biosensors, Advances in Fermentation technology, chapter 4, 89-120, Asiatech Publishers. Eds. C Larroche, CR Soccol, C G Dussap and Ashok Pandey, 2008, ISBN 81-87680

8. N. de-los-Santos-Álvarez, P. de-los-Santos-Álvarez, M.J. Lobo-Castañón, A.J. Miranda-Ordieres, P. Tuñón-Blanco NADH-based electrochemical sensors, Vol. 6, 349-378, 2006, Encyclopedia of sensors. American Scientific Publisher. Eds. C.A. Grimes, E.C. Dickey, M.V. Pishko. ISBN 1-58883-056-X (set) ISBN (volumen 6): 1-58883-062-4,

INVITED LECTURES

1. **N. de los Santos Álvarez**, A. Díaz-Fernández, M. Aller-Pellitero, R. Miranda-Castro, M.J. Lobo Castañón, ***L****essons learnt from DNA immobilization on Au surfaces for sensing in the clinical field*, 12th International Workshop on Surface Modification for Chemical and Biochemical Sensing (SMCBS2025), Rzeszów, (Poland), November 14-18, 2025.

2. **N. de los Santos Álvarez**, A. Díaz-Fernández, R. Lorenzo-Gómez, R. Miranda-Castro; Natalia Díaz, Dimas Suárez, M. J. Lobo Castañón, *Aptamers for improved clinical diagnostics: selection, computational-guided optimization and applications*, Canadian Society of Chemistry (CSC2025), Ottawa (Canada), June 15-19, 2025.

3. **N. de-los-Santos-Álvarez**, *Nucleic acid-based electrochemical biosensors in cancer management*, Workshop CanDoit project, Lille (France), January 6-9, 2025.

4. **N. de-los-Santos-Álvarez**, *ADN: un reactivo muy versátil en medicina de precisión*. 1er Congreso Internacional de Nanotecnología y Biotecnología. Bucaramanga (Colombia). Sept 20, 2024 (on-line).

5. **N. de-los-Santos-Álvarez**, *De la molécula genética a la molécula genérica: el ADN como herramienta hacia una medicina personalizada y más precisa para todos*, XX Simposio de Investigación Científica de la Pontificia Universidad Católica de Puerto Rico, Ponce (PR), April 21, 2023 **(Plenary)**

6. **N. de-los-Santos-Álvarez**, *De la molécula genética a la molécula genérica: el ADN como herramienta hacia una medicina personalizada y más precisa para todos*, Seminario en la escuela graduada de la Universidad de Puerto Rico-recinto de Mayagüez, Mayagüez (PR), April 18, 2023.

7. **N. de los Santos Álvarez**, *El ADN: un reactivo muy versátil.* ACS students seminar at Universidad Ana G. Méndez de Puerto Rico, Cupey (PR), April 17, 2023.

8. **N. de-los-Santos-Álvarez**, R. Lorenzo-Gómez, R. Miranda-Castro, M.J. Lobo-Castañón; *Directed selection of aptamers for more specific cancer diagnosis***,** 3rd International Conference on Analytical and Bioanalytical Methods, Boston (online), October 18-20, 2021

9. **N. de-los-Santos-Álvarez**; *Electrochemical DNA-based sensors: expanding the analytical tool-box. First workshop on electrochemical devices*. Porto (Portugal), October 13-14, 2016

10. **N. de-los-Santos-Álvarez**, *Nuevas herramientas analíticas para la detección de gluten en alimentos: aptámeros y genosensore*s, Facultad de Ciencias Exactas, Fisicoquímicas y Naturales. Universidad Nacional de Río Cuarto (Argentina), August 20, 2015

11. **N.S. Álvarez**, M.J.L. Castañón, A.J.M. Ordieres, P.T. Blanco, *Aptamers as recognition elements for analytical devices, Workshop on Array Technologies*, Istambul (Turkey) May 5-6, 2010

12. **N. de los Santos Álvarez**, *Aptasensors as recognition elemen*ts, Screening, MedChem, ADMET Europe 2009, Berlín (Germany), February 23-25, 2009

ORAL COMMUNICATIONS IN CONFERENCES (selected)

13. M.J. Lobo-Castañón, R. Guillén-Palomares, L. Ramos-Palacios, L. Tuñón-González, A. Díaz-Fernández, **N. de-los-Santos Álvarez**, F.J. Cepeda Piorno, Aptamer-based quantification of soluble BCMA: a step toward liquid biopsy in multiple mieloma, XL Bienal de la RSEQ, Bilbao, June 30-July 3, 2025.

14. M. Aller Pellitero, **N. de los Santos Álvarez**, M. J. Lobo Castañón, Understanding the impact of temperature on electrochemical, aptamer-based sensors, Oligo 2025, Oxford (UK), April 16-17, 2025.

15. M. J. Lobo Castañón, A. Díaz-Fernández, M. Aller-Pellitero, N. Díaz, D. Suárez, **N. de-los-Santos-Álvarez,** Advancing health monitoring with electrochemical aptamer sensors: a path to non-invasive molecular diagnostics, International Conference Celebrating the 220th Anniversary of the First Theory of Electrolysis by Theodor von Grotthuss, Vilnius (Lithuania), June 4-6, 2025.

16. R. Miranda Castro, Inés Díaz-Martínez, **N. de-los-Santos-Álvarez**, M.J. Lobo-Castañón, Lectin-mimicking aptamer as a generic glycoprotein receptor for early cancer diagnosis: application in the detection of serum amyloid P (SAP) component, 19 International Conference on Electronalysis (ESEAC 2024), Ulm (Germany), July 23-26, 2024.

17. **N. de-los-Santos-Álvarez**, A. Díaz-Fernández, D. Suárez, N. Díaz, M.J. Lobo Castañón, When the aptamer secondary structure is not enough for optimization: computational assisted rational truncation of aptamers for electrochemical sensing, BES 2024, Alcalá de Henares (Spain), May 19-23, 2024

18. **N. de-los-Santos-Álvarez**, A. Díaz-Fernández, D. Suárez, N. Díaz, M.J. Lobo Castañón, 3D aptamer structure matters: computational-assisted aptamer optimization for electrochemical sensing, Aptamers 2024, Oxford (UK), March 18-19, 2024.

19. M. J. Lobo Castañón, R. Sánchez-Salcedo, M. Alexandru Cobzariu, R. Miranda Castro, N**. de los Santos Álvarez**, D. Fernández-Martínez, L.J. García Flórez, Exploring long noncoding RNA dysregulation in cancer using electrochemical sensing platforms, NanoBalkan 2023, Tirana (Albany), October 16-20, 2023.

20. M. J. Lobo-Castañón, Marta Pérez-López, Ana Díaz-Fernández, Rebeca Miranda-Castro, N**oemí de-los-Santos-Álvarez**, Aptamer based detection of emerging cancer biomarkers to guide cancer diagnosis and management., XXI EuroAnalysis Congress, Geneva (Switzerland), August 27-31, 2023

21. M. J. Lobo Castañón, R. Sánchez-Salcedo, M. Alexandru Cobzariu, R. Miranda Castro, **N. de los Santos Álvarez**, D. Fernández-Martínez, L.J. García Flórez, Bioelectrochemical platforms for the detection of long non–coding RNAs upregulated in cancer, 1st Regional Meeting of the ISE, Prague (Czeck Republic), August 15-19, 2022.

22. P. Gómez Meijide, R. Miranda Castro, J. I. García Alonso, M. J. Lobo Castañón, P. Rodríguez González, **N. de los Santos Álvarez**, Determinación de PSA mediante aptasensores electroquímicos para el diagnóstico de cáncer de próstata, XXIII Reunión de la Sociedad Española de Química Analítica, Oviedo, July 12-14, 2022

23. M.J. Lobo-Castañón, R. Lorenzo-Gómez, A. Díaz-Fernández, P. Gómez-Meijide, S. Tellado Arbesú, R. Miranda-Castro, **N. de-los-Santos-Álvarez**; Aptamers against cancer biomarkers: selection and integration into electrochemical sensors; 72nd Annual Meeting of the International Society of Electrochemistry, Jeju Island, Korea/Online, August 29- September 3, 2021

24. R. Miranda-Castro, R. Sánchez-Salcedo, C. Abardía-Serrano, **N. de los Santos Álvarez**, M.J. Lobo Castañón, Electrochemical biosensing platforms for monitoring long non-coding RNAs: towards a more reliable early detection of prostate cancer, Current Trends in Electrochemistry: 41st Meeting of the Electrochemistry Group of the Spanish Royal Society of Chemistry, París (France), July 6-9, 2021

25. M.J. Lobo Castañón, R. Lorenzo-Gómez, A. Díaz-Fernández, R. Miranda-Castro, **N. de los Santos Álvarez**, Electrochemical aptasensors for cancer-related biomarkers: moving toward a more specific diagnosis (Keynote), XXVIth International Symposium on Bioelectrochemistry and Bioenergetics (BES), Cluj-Napoca (Rumania) virtual, May 9-13, 2021

26. C. Abardía-Serrano, R. Miranda-Castro, **N. de los Santos Álvarez**, M.J. Lobo Castañón, Aptamer-based assays for diagnosis and management of celiac disease XXVIth International Symposium on Bioelectrochemistry and Bioenergetics (BES), Cluj-Napoca (Rumania) virtual, May 9-13, 2021

27. R. Lorenzo-Gómez, R. Miranda-Castro, **N. de los Santos Álvarez**, M.J. Lobo-Castañón, Improving the Analytical Performance of Weak Aptamers: DNA Isothermal Amplification Approaches, 1st International Electronic Conference on Biosensors, November 2–17, 2020

28. R. Sánchez-Salcedo, R. Miranda-Castro, **N. de los Santos Álvarez**, M.J. Lobo-Castañón, Electrochemical Platforms for Solid-Phase Isothermal Amplification and Detection of Bacterial Genome, 1st International Electronic Conference on Biosensors, November 2–17, 2020

29. A. Díaz-Fernández, R. Miranda-Castro, P. Estrela, **N. de los Santos Álvarez**, M.J. Lobo-Castañón, Catching the Sugars: Electrochemical Aptasensors for the Detection of Cancer-Related Glycosylation

Changes in Prostate Specific Antigen, 1st International Electronic Conference on Biosensors, November 2–17, 2020

30. A. Díaz-Fernández, R. Miranda-Castro, P. Estrela, **N. de los Santos Álvarez**, M.J. Lobo Castañón, Detection of cancer-related glycosylation changes in prostate specific antigen using electrochemical label-free aptasensors, 71st Annual Meeting ISE, Belgrade (Serbia), August 31- September 4, 2020
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OTHER MERITS

7 Doctoral Thesis (+4 ongoing), 2 Minor Thesis and 15 Master Thesis supervised. Principal Investigator of 5 Spanish National Projects. Member of two European Projects (IRSES 2013, MSCA-DN-2023 STriM). 7 Conferences and Scientific Meetings organized. 1 Spanish Patent ES2436861 B2.

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