



Mario Castaño-Álvarez, PhD

Curriculum Vitae



DR. MARIO CASTAÑO-ÁLVAREZ

Personal Details

Name: Mario
Surname: Castaño-Álvarez
Gender: Male
Date of birth: 21st August, 1980
Nationality: Spanish

Professional Position

Company: MicruX Technologies
Address: Severo Ochoa Building
Floor -1 – Room 4 & 6
Julián Clavería s/n
Postal Code: 33006
City: Oviedo (Asturias)
Country: Spain

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EDUCATION

July 2008 **Ph.D. degree** (European Ph.D. mention) by University of Oviedo entitled: “*Microchannels and microchips capillary electrophoresis with electrochemical detection: Design, construction and applications*”. (Dissertation: 07/07/2008)

June 2005 **M.Sc. degree** entitled: “*Amperometric detectors for capillary electrophoresis microchips*”. University of Oviedo.

June 2003 **Graduate thesis** entitled: “*Gold electrodes for detection of enzyme immunoassay with 3-indoxilphosphate as substrate*”. University of Oviedo.

September 2002 **B.Sc. degree in Chemistry**, focus in **Analytical Chemistry**. University of Oviedo.

PROFESSIONAL EXPERIENCE

January 2009 – Present Chief Science Officer. MicruX Fluidic, S.L.

July 2008 – Dec. 2008. Post-doctoral researcher at **Immuno-electroanalysis group** of the Physical and Analytical Chemistry Department at the University of Oviedo

Sept. 2002 – June 2008 Research Chemist at **Immuno-electroanalysis group** of the Physical and Analytical Chemistry Department at the University of Oviedo in order to obtain the Ph.D. degree.

➤ **SHORT STAYS**

May – July 2007 **Pharmaceutical Analysis Group** (Dr. Elisabeth Verpoorte). Groningen Research Institute of Pharmacy. University of Groningen (The Netherlands).

➤ AWARDS AND FELLOWSHIPS

- July 2009 – June 2012* Awarded with a Torres Quevedo grant of the Spanish Ministry of Science & Innovation (MICINN, PTQ-09-01-00264).
- May – November 2008* Grant associated to the research project FC-06-PC-004.
- Sept. – December 2007* Awarded with a grant of the University of Oviedo (UNOV-07-FTDOC-20).
- May 2004 – July 2007* Awarded with a Ph.D. grant of the Principado de Asturias (FICYT, BP04-069).
- July 2003 – April 2004* Awarded with a Ph.D. grant of the University of Oviedo (UNIOVI-03-BECCDOC-03).
- Sept. 2002 – June 2003* Grant associated to the European research project “*Differential diagnosis of infectious lung diseases*” (UE-02-QLK2-CT-70963).

➤ RESEARCH PROJECTS

- Feb. 2014 – June 2017* “*Optimization of low-cost Lab-on-a-Chip platforms for the development of biomedical applications - BIOLOC*” (MINECO -RETOS-COLABORACION - RTC-2014-1746-1))
- Oct. 2012 – Jan. 2016* “*Smart production of Microsystems based on laminated polymer films - SMARTLAM*” (EU FP7 Grant # 314580)
- June 2014 – Dic. 2015* “*New researches in integrated electronic circuits for the measurement of nano- and pico-currents*” (FICYT - IE14-003)
- June 2014 – May 2015* “*Study of new multifunctional platforms for electrochemical devices*” (IDE/2014/000089)
- Sept. 2013 – Sept. 2015* “*New materials for electrochemical sensors in microfluidic platforms: Application to molecular recognition - MATSENS*” (M-ERA.NET, IDEPA IDE/2013/000028)
- Sept. 2013 – Dec. 2014* “*Basic modifications in electrochemical sensors based on thin-film technologies for integration in microfluidic platforms*” (FICYT - IE13-027)
- Sept. 2013 – March 2014* “*Thin-film technologies study for the manufacture of microsensors based on carbon materials*” (IDEPA IDE/2013/000119)
- Nov. 2012 – Nov. 2013* “*Design and development of new analytical tools for electrochemical sensors*” (IDEPA IDE/2012/000055).
- Sept. 2011 – Sept. 2013* “*Manufacturing technologies for the development of Lab-on-a-Chip devices - MANULOC*” (ERA-NET MANUNET, IDEPA IDE/2011/000493)

- March 2011 – December 2012 "New universal detection systems for microfluidic devices. Application to environmental analysis" (FICYT - IE09-281).
- March 2011 – December 2012 "Determination of cardiac biomarkers using microchips electrophoresis with electrochemical detection" (MicruX Fluidic, S.L., FICYT - PC10-30).
- February 2009 - February 2011 "Miniaturized and portables analysis systems based on microchips capillary electrophoresis" (CDTI - IDI-20091097).
- January 2009 – June 2010 "Creation of technology based companies" (FICYT- EIBT08-08).
- December 2008 – December 2010 "Fabrication, modification and integration of electrochemical detection in microchips capillary electrophoresis" (FICYT - IB08-108C3).
- December 2005 – December 2007 "Design and fabrication of microchips capillary electrophoresis for enzymeassays with electrochemical detection" (FICYT - IB05-151C2).
- 2002 – 2004 "Differential diagnosis of infectious lung diseases" (UE-02-QLK2-CT-70963).

➤ **PUBLICATIONS**

1. M. Castaño-Álvarez, M.T. Fernández-Abedul, A. Costa-García. "Gold electrodes for detection of enzyme assays with 3-indoxilphosphate as substrate". *Electroanalysis*, 2004, 16(18), 1487 – 1496
2. M. Castaño-Álvarez, M.T. Fernández-Abedul, A. Costa-García. "Amperometric PMMA-microchip with integrated gold working electrode for enzyme assays". *Analytical and Bioanalytical Chemistry*, 2005, 382, 303 – 310.
3. M. Castaño-Álvarez, M. T. Fernández-Abedul, A. Costa-García. "Poly(methylmethacrylate) and Topas capillary electrophoresis microchips performance with electrochemical detection". *Electrophoresis*, 2005, 26, 3160 – 3168.
4. M. Castaño-Álvarez, M.T. Fernández-Abedul, A. Costa-García "Amperometric detector designs for capillary electrophoresis microchips". *Journal of Chromatography A*, 2006, 1109, 291 – 299.
5. M. Castaño-Álvarez, M.T. Fernández-Abedul, A. Costa-García "Analytical performance of CE-microchips with amperometric detection". *Instrumentation Science & technology*, 2006, 34, 697 – 710.

6. M. Castaño Álvarez, M.T. Fernández Abedul, A. Costa García, "Miniaturised devices: electrochemical capillary electrophoresis microchips for clinical application", *Chapter book 34, Electrochemical Sensors Analysis (ECSA)*, A. Merkoci y S. Alegret (Eds), Elsevier. Volumen 49, 2007, 827 – 872.
7. M. Castaño Álvarez, M.T. Fernández Abedul, A. Costa García, "Separation and amperometric detection of hydrogen peroxide and L-ascorbic acid using capillary electrophoresis microchip", *Procedure 48, Electrochemical Sensors Analysis (ECSA)*, A. Merkoci y S. Alegret (Eds), Elsevier. Volumen 49, 2007, e343 – e349.
8. M. Castaño-Álvarez, M.T. Fernández-Abedul, A. Costa-García "Electroactive intercalators for DNA analysis on microchip electrophoresis". *Electrophoresis*, 2007, 28, 4679 – 4689.
9. M. Castaño-Álvarez, D.F. Pozo Ayuso, M. García Granda, M.T. Fernández-Abedul, J. Rodríguez García, A. Costa-García, "Critical points in the fabrication of microfluidic devices on glass substrates". *Sensors & Actuators B: Chemical*, 2008, 130, 436 – 448.
10. D.F. Pozo Ayuso, M. Castaño-Álvarez, A. Fernández-la-Villa, M. García Granda, M.T. Fernández-Abedul, J. Rodríguez García, A. Costa-García, "Fabrication and evaluation of single- and dual-channel (II-design) microchip electrophoresis with electrochemical detection". *Journal of Chromatography A*, 2008, 1180, 193 – 202.
11. M. Castaño-Álvarez, A. Fernández-la-Villa, M.T. Fernández-Abedul, A. Costa-García, "MCE-electrochemical detection for following interactions of ssDNA and dsDNA with methylene blue". *Electrophoresis*, 2009, 30(11), 1943 – 1948.
12. M. Castaño-Álvarez, M.T. Fernández-Abedul, A. Costa-García, M. Agirregabiria, L.J. Fernández, J.M. Ruano-López, B. Barredo-Presa, "Fabrication of SU-8 based microchip electrophoresis with integrated electrochemical detection for neurotransmitters". *Talanta*, 2009, 80, 24 – 30.
13. M. Castaño-Álvarez, A. Fernández-la-Villa, D.F. Pozo-Ayuso, M.T. Fernández-Abedul, A. Costa-García, "Multiple-point electrochemical detection for a dual-channel hybrid poly(dimethylsiloxane)-glass microchip electrophoresis device". *Electrophoresis*, 2009, 30(19), 3372 – 3380.
14. A. Fernández-la-Villa, D.F. Pozo-Ayuso, M. Castaño-Álvarez, "New analytical portable instrument for microchip electrophoresis with electrochemical detection". *Electrophoresis*, 2010, 31, 2641 – 2649.
15. A. Fernández-la-Villa, D. Sánchez-Barragán, D.F. Pozo-Ayuso, M. Castaño-Álvarez, "Smart portable electrophoresis instrument based on multipurpose microfluidic chips with electrochemical detection". *Electrophoresis*, 2012, 33, 2733 - 2742.
16. A. Fernández-la-Villa, V. Bertrand-Serrador, D.F. Pozo-Ayuso, M. Castaño-Álvarez, "Fast and reliable urine analysis using a portable platform based on microfluidic electrophoresis chips with electrochemical detection". *Anal. Methods*, 2013, 5, 1494 - 1501.

17. E.O. Barnes, A. Fernández-la-Villa, D.F. Pozo-Ayuso, M. Castaño-Alvarez, G.E.M. Lewis, S.E.C. Dale, F. Marken, R.G. Compton, "Interdigitated ring electrodes: Theory and experiment". *J. Electroanal. Chem.*, 2013, 709, 57 – 64.
18. A. Fernández la Villa, D.F. Pozo Ayuso, M. Castaño Álvarez. "Integrated portable microfluidic electrophoresis system with electrochemical detection for fast analysis of alimentary oils". The 18th International Conference on Miniaturized Systems for Chemistry and Life Sciences. *μTAS Proceedings 2014*, 2408 – 2410. October 26-30. 2014. San Antonio (TX) USA.
19. E.O. Barnes, A. Fernández-la-Villa, D. F. Pozo-Ayuso, M. Castaño-Alvarez, R.G. Compton "Validating the geometry of interdigitated band electrodes: A variable scan rate study" *J. Electroanal. Chem.*, 2015, 748, 82 – 90.

➤ CONGRESS CONTRIBUTIONS

1. XIII Meeting of the Spanish Society of Analytical Chemistry (SEQA). A Coruña, Spain. October 2003. Poster presentation: "Gold electrodes for enzymeimmunoassays with 3-indoxilphosphate as substrate". M. Castaño Álvarez, M.T. Fernández Abedul, A. Costa García.
2. Euroanalysis XIII. Salamanca, Spain. September 2004. Poster presentation: "Amperometric PMMA-chip with integrated gold working electrode for enzyme assays". M. Castaño Álvarez, M.T. Fernández Abedul, A. Costa García.
3. 11th Instrumental Analysis Conference (JAI). Barcelona, Spain. November 2005. Poster presentation: "Amperometric detectors for PMMA and Topas CE-microchips". M. Castaño Álvarez, M.T. Fernández Abedul, A. Costa García.
4. 11th International Meeting on Chemical Sensors (IMCS). Brescia, Italy. July 2006. Poster presentation: "Critical points in the fabrication of microfluidic devices on glass substrates". M. Castaño Álvarez, D.F. Pozo Ayuso, M. García Granda, M.T. Fernández Abedul, J. Rodríguez García, A. Costa García.
5. EOS Annual Meeting 2006. Paris, France. October 2006. Poster presentation: "Photomask laser writing application for fabrication of microdevices on glass substrates". D.F. Pozo Ayuso, M. García Granda, M. Castaño Álvarez, J. Rodríguez García, M.T. Fernández Abedul, A. Costa García.
6. I Workshop on Analytical Nanotechnology. Córdoba, Spain. July 2007. Poster presentation: "Carbon nanotubes on microchips capillary electrophoresis with electrochemical detection". A. Fernández la Villa, M. Castaño Álvarez, M.T. Fernández Abedul, A. Costa García, D.F. Pozo Ayuso, J. Rodríguez García.
7. 5th Spanish Meeting of Optoelectronics (OPTOEL'07). Bilbao, Spain. July 2007. Poster presentation: "Photolithographic techniques application for fabrication of mask and microchips capillary electrophoresis". D. F. Pozo Ayuso, M. García Granda, M. Castaño Álvarez, J. Rodríguez García, M.T. Fernández Abedul, A. Costa García.

8. **VII Scientific Meeting of the Spanish Society of Chromatography and Related Techniques (SECyTA)**. Granada, Spain. October 2007. Oral communication: *"DNA monitoring using electroactive intercalators on microchip electrophoresis with electrochemical detection"*. M. Castaño Álvarez, M. T. Fernández Abedul, A. Costa García.
9. **VII Scientific Meeting of the Spanish Society of Chromatography and Related Techniques (SECyTA)**. Granada, Spain. October 2007. Poster presentation: *"Neurotransmitter separation using an SU-8 capillary electrophoresis microdevice with an integrated end-channel amperometric detector"*. M. Agirregabiria, J.M. Ruano López, L.J. Fernández, K. Mayora, M. Castaño Álvarez, M.T. Fernández Abedul, A. Costa García.
10. **VII Scientific Meeting of the Spanish Society of Chromatography and Related Techniques (SECyTA)**. Granada, Spain. October 2007. Poster presentation: *"Fabrication and evaluation of single- and dual-channel glass-microchip electrophoresis with electrochemical detection"*. M. Castaño Álvarez, A. Fernández la Villa, M.T. Fernández Abedul, A. Costa García, D.F. Pozo Ayuso, M. García Granda, J. Rodríguez García.
11. **12th International Conference on Electroanalysis (ESEAC 2008)**. Prague, Czech Republic. June 2008. Poster presentation: *"Integrating electrochemical detection on microchip electrophoresis"*. M. Castaño Álvarez, A. Fernández la Villa, M.T. Fernández Abedul, A. Costa García
12. **I Workshop on Analytical Miniaturization ("lab-on-a-chip")**. Madrid, Spain. July 2008. Communication: *"Carbon microelectrodes (ink and fibers) as transducers on microchip electrophoresis"*. M. Castaño Álvarez, D.F. Pozo Ayuso, A. Fernández la Villa, M.T. Fernández Abedul, A. Costa García.
13. **I Workshop on Analytical Miniaturization ("lab-on-a-chip")**. Madrid, Spain. July 2008. Communication: *"Comparison of different materials for microchip electrophoresis with electrochemical detection"*. A. Fernández la Villa, M. Castaño Álvarez, D.F. Pozo Ayuso, M.T. Fernández Abedul, A. Costa García.
14. **I Workshop on Analytical Miniaturization ("lab-on-a-chip")**. Madrid, Spain. July 2008. Communication: *"Mechanical micromilling for microdevices manufacturing"*. D.F. Pozo Ayuso, D. González, P. Queipo, J.A. Rodríguez Cortés, M. Castaño Álvarez, A. Fernández la Villa, M.T. Fernández Abedul, A. Costa García, J. Rodríguez García.
15. **59th Annual Meeting of the International Society of Electrochemistry**. Seville, Spain. September 2008. Poster presentation: *"Single- and dual-channel PDMS microchip performance with electrochemical detection"*. M. Castaño Álvarez, A. Fernández la Villa, D.F. Pozo Ayuso, M.T. Fernández Abedul, A. Costa García.
16. **59th Annual Meeting of the International Society of Electrochemistry**. Seville, Spain. September 2008. Poster presentation: *"CNT-modified gold wire electrode to enhance the sensitivity on microchip electrophoresis"*. A. Fernández la Villa, M. Castaño Álvarez, D.F. Pozo Ayuso, M.T. Fernández Abedul, A. Costa García.

17. **3rd Lab-on-a-Chip European Congress.** Stockholm, Sweden. May 2009. Poster presentation: *“New trends for versatile microfabrication of capillary electrophoresis microchips and electrochemical detection integration”*. M. Castaño-Álvarez, A. Fernández-la-Villa, D.F. Pozo-Ayuso, D. González, P. Queipo, J. A. Cortés.
18. **3rd Lab-on-a-Chip European Congress.** Stockholm, Sweden. May 2009. Poster presentation: *“Polyphenolic compounds analysis on capillary electrophoresis microchips coupled with electrochemical detectors”*. A. Fernández la Villa, M. Castaño Álvarez, D.F. Pozo Ayuso, M.T. Fernández Abedul, A. Costa García.
19. **XXXII Congreso de la Sociedad Española de Bioquímica y Biología Molecular – Foro del Emprendedor.** Oviedo, Spain. September 2009. Invited communication: *“La importancia de desarrollar un buen plan de empresa”*. M. Castaño-Álvarez, A. Fernández-la-Villa, D.F. Pozo-Ayuso.
20. **15th Latin American Symposium on Biotechnology, Biomedical, Biopharmaceutical and Industrial Applications of Capillary Electrophoresis and Microchip Technology (LACE 2009).** Seville, Spain. October 2009. Poster presentation: *“Novel miniaturized instrumentation for easy handle of microchip electrophoresis”*. A. Fernández-la-Villa, D.F. Pozo-Ayuso, M. Castaño-Álvarez.
21. **IX Scientific Meeting of the Spanish Society of Chromatography and Related Techniques** San Sebastián, Spain. October 2009. Poster presentation: *“New challenges in the development of miniaturized and portable instrumentation”*. M. Castaño-Álvarez, A. Fernández-la-Villa, D.F. Pozo-Ayuso.
22. **IX Scientific Meeting of the Spanish Society of Chromatography and Related Techniques** San Sebastián, Spain. October 2009. Poster presentation: *“Food analysis on microchips electrophoresis with amperometric detection”*. A. Fernández la Villa, M. Castaño Álvarez, D.F. Pozo Ayuso, M.T. Fernández Abedul, A. Costa García.
23. **I Jornada Intramural de Translación de Resultados en la Investigación Biomédica.** Madrid, Spain. December 2009. Invited communication: *“Creación de una spin-off desde un centro público de investigación”*. M. Castaño-Álvarez, A. Fernández-la-Villa, D.F. Pozo-Ayuso.
24. **II International Workshop on Analytical Miniaturization (“lab-on-a-chip”).** Oviedo, June 2010, Spain, Poster/ Flash presentation: *“Compact lab-on-a-chip instrument: a first stage towards the future”*. A. Fernández-la-Villa, D.F. Pozo-Ayuso, M. Castaño-Álvarez.
25. **II International Workshop on Analytical Miniaturization (“lab-on-a-chip”).** Oviedo, June 2010, Spain. Technical communication: *“Microfluidic Platforms: From Research to the market” (MicruX Technologies)*. M. Castaño-Álvarez, A. Fernández-la-Villa, D.F. Pozo-Ayuso.
26. **Lauching the “Nanofutures” European initiative.** Gijón, Spain. June 2010. Oral presentation: *“From research to the market: successful spin-off (MicruX Technologies)”*. M. Castaño-Álvarez, A. Fernández-la-Villa, D.F. Pozo-Ayuso.

27. **Lauching the “Nanofutures” European initiative.** Gijón, Spain. June 2010. Poster presentation: *“Compact lab-on-a-chip instrument: a first stage towards the future”*. A. Fernández-la-Villa, D.F. Pozo-Ayuso, M. Castaño-Álvarez.
28. **ESEAC (13th International conference on electroanalysis) Open Forum Satellite Meeting.** Gijón, Spain. June 2010. Oral presentation: *“Spin-off: novel market avenues (MicruX Technologies)”*. M. Castaño-Álvarez, A. Fernández-la-Villa, D.F. Pozo-Ayuso.
29. **28th International Symposium on Chromatography (ISC 2010).** Valencia, Spain. September 2010. Oral presentation: *“New trends on portable instrumentation for microchip capillary electrophoresis”*. D.F. Pozo-Ayuso, A. Fernández-la-Villa, M. Castaño-Álvarez.
30. **V Workshop on Analytical Nanoscience and Nanotechnology.** Toledo, Spain. September 2011. Poster presentation: *“Novel miniaturized high voltage power supply useful for multiple analytical applications”*. D.F. Pozo-Ayuso, A. Fernández-la-Villa, M. Castaño-Álvarez.
31. **V Workshop on Analytical Nanoscience and Nanotechnology.** Toledo, Spain. September 2011. Flash/poster presentation: *“Fast and reliable urine analysis using portable platforms based on Lab-on-a-Chip technologies”*. M. Castaño-Álvarez, A. Fernández-la-Villa, D.F. Pozo-Ayuso.
32. **14th International conference on electroanalysis (ESEAC 2012).** Portorož, Slovenia. June 2012. Oral presentation: *“Compact and portable microfluidic electrophoresis-electrochemical platform for in-situ applications”*. D.F. Pozo-Ayuso. A. Fernández-la-Villa, D. Sánchez-Barragán, M. Castaño-Álvarez.
33. **III International Workshop on Analytical Miniaturization and NANOTEchnologies (WAM-NANO 2012).** Barcelona, Spain. June 2012. Poster presentation: *“High-Performance smart small-size microfluidic electrophoresis chips with integrated electrodes”*. M. Castaño-Álvarez, A. Fernández-la-Villa, D. F. Pozo-Ayuso.
34. **III International Workshop on Analytical Miniaturization and NANOTEchnologies (WAM-NANO 2012).** Barcelona, Spain. June 2012. Poster presentation: *“Fast and reliable pharmacological analysis using a portable microfluidic platform”*. A. Fernández-la-Villa, V. Bertrand Serrador, D. F. Pozo-Ayuso, M. Castaño-Álvarez
35. **III International Workshop on Analytical Miniaturization and NANOTEchnologies (WAM-NANO 2012).** Barcelona, Spain. June 2012. Poster presentation: *“Hand-held automated instrument for microchip electrophoresis with amperometric detection”*. D.F. Pozo-Ayuso, A. Fernández-la-Villa, D. Sánchez-Barragán, M. Castaño-Álvarez
36. **18th Meeting of the Portuguese Electrochemical Society (18 SPE).** Porto, Portugal. March 2013. Oral presentation: *“Novel thin-film (micro)electrodes approaches: fabrication and performance”*. A. Fernández-la-Villa, D. F. Pozo-Ayuso, M. Castaño-Álvarez
37. **10th International Interdisciplinary Meeting on Bioanalysis (CECE),** Pécs, Hungary. April 2013. Oral Presentation: *“Fast and reliable urine analysis using a portable platform based on*

- microfluidic electrophoresis chips with electrochemical detection*". A. Fernández-la-Villa, D. F. Pozo-Ayuso, M. Castaño-Álvarez.
38. **VI Workshop on Analytical Nanoscience and Nanotechnology (VINyNA 2013)**, Alcalá de Henares, Spain. July 2013. Oral/Poster Presentation: "*Smart thin-film (micro)electrode approaches as suitable electroanalytical tool*". M. Castaño-Álvarez, A. Fernández-la-Villa, D. F. Pozo-Ayuso.
 39. **Advances in Microfluidics and Nanofluidics 2014 (AMN2014)**. Taipei, Taiwan. May 2014. Poster presentation: "*Next generation of microfluidic platforms based on microchips electrophoresis with integrated electrochemical sensors*". M. Castaño-Álvarez, A. Fernández-la-Villa, D.F. Pozo-Ayuso.
 40. **15th International conference on electroanalysis (ESEAC 2014)**. Malmö, Sweden. June 2014. Oral presentation: "*Interdigitated ring electrodes: Theory and Experiment*". E.O. Barnes, A. Fernández-la-Villa, D.F. Pozo-Ayuso, M. Castaño-Alvarezb, G.E. M. Lewis, S.E. C. Dale, F. Markenc and R.G. Compton.
 41. **IV International Workshop on Analytical Miniaturization and NANotechnologies (WAM-NANO 2012)**. Copenhagen, Denmark. June 2014. Poster presentation: "*Alimentary oil fast analysis on portable system based on microfluidic electrophoresis chips with electrochemical detection*". A. Fernández-la-Villa, D. F. Pozo-Ayuso, M. Castaño-Álvarez.
 42. **XXXV Meeting of the Electrochemistry Group of the Spanish Royal Society of Chemistry**. Burgos, Spain. July 2014. Oral presentation: "*Innovative Electrochemical Platforms for Using a New Generation of Low-Cost Thin -Film (micro)Electrodes*". A. Fernández-la-Villa, D.F. Pozo-Ayuso, M. Castaño-Álvarez.
 43. **65th Annual Meeting of the International Society of Electrochemistry (ISE 2014)**. Lausanne, Switzerland. August-September 2014. Poster presentation: "*Development of Innovative Platforms for improving the use of a New Generation of Low-cost Thin-film Electrochemical Sensors*". A. Fernández la Villa, D.F. Pozo Ayuso, M. Castaño Álvarez.
 44. **The 18th International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS 2014)**. San Antonio, USA. October 2014. Poster presentation: "*Integrated portable microfluidic electrophoresis system with electrochemical detection for fast analysis of alimentary oils*". A. Fernández la Villa, D.F. Pozo Ayuso, M. Castaño Álvarez.
 45. **The 18th International Conference on Miniaturized Systems for Chemistry and Life Sciences (MicroTAS 2014)**. San Antonio, USA. October 2014. Commercial Poster: "*Hand-held automated instrument for microchip electrophoresis with amperometric detection*". A. Fernández la Villa, D.F. Pozo Ayuso, M. Castaño Álvarez.
 46. **Lab-on-a-chip & Microfluidics 2015**. Berlin, Germany. April 2015. Poster "*Hand-held automated instrument for microchip electrophoresis with amperometric detection*". D.F. Pozo Ayuso A. Fernández la Villa, M. Castaño Álvarez.

47. **I Advances in microfluidics & Lab-on-a-chip technologies (AML 2015)**. On-Line Event. June 2015. Poster: *"Smart downsize microfluidic chips with integrated electrochemical sensing approach"*. M. Castaño Álvarez, A. Fernández la Villa, D.F. Pozo Ayuso.
48. **VII Workshop on Analytical Nanoscience and Nanotechnology (VII NyNA 2015)**. Salamanca, Spain. July 2015. Poster Presentation: *"Development of novel electroanalytical methods based on smart thin-film (micro)electrode in static and dynamic conditions"*. O. Amor Gutiérrez, M. Cuellas Díaz, M. T. Fernández Abedul, A. Fernández-la-Villa, D.F. Pozo- Ayuso, M. Castaño-Álvarez.

➤ **PATENTS**

- A. Costa-García, M.T. Fernández-Abedul, M. Castaño-Álvarez, A. Fernández-la-Villa, D.F. Pozo-Ayuso. **"Microchips capillary electrophoresis of resin EPON SU-8 with integrated electrochemical detection"**, application number: **P200802006**, publication number: **ES 2 320 619 (B2)**, priority data: *30/06/08*, applicant: University of Oviedo.

LANGUAGES SKILLS

Spanish: Mother tongue.

English: Home English Certificate (350 h.) Pass With Credit spoken and written.

COMPUTER SKILLS

MS-DOS, Windows 95/98/XP/Vista/7/8, MS Office (Word, Excel, PowerPoint, Access), Internet (IE Explorer, Outlook Express), Web design utilities (Dreamweaver, Flash).

COURSES

Post-graduate courses 2002 – 2003. University of Oviedo

- Characterization of materials by spectroscopic and microscopic techniques. (30 h.)
- Analytical speciation of essential and toxic elements. (40 h.)
- Applications of the ICP-MS. (30 h.)
- New trends in HPLC. (30 h.)
- New trends and materials for optical recognition of (bio)chemical species. (30 h.)
- Electrochemical sensors. (50 h.)

Other courses:

March – May 2014 15.390x Entrepreneurship 101: Who is your customer? MITx

- Sept. 2013 – Feb. 2014* **3.086x Innovation and Commercialization. MITx**
- Oct. 2012 – April 2013* **CS50x: Introduction to Computer Science I. HarvardX**
- January – March 2012* **Marketing online & SEO.** Federación Asturiana de Empresarios - FADE. (50 h.)
- January – March 2011* **Balanced Scorecard.** Federación Asturiana de Empresarios - FADE. (120 h.)
- April 2010* **Seminar about Quantitative PCR and Bialyzer.** Agilent Technologies.
- May 2009* **Training course: Microfabrication Technologies for Microfluidic Devices.** Lab-on-a-Chip European Congress, Microfluidic-ChipShop, GmbH. (4 h.)
- February – July 2008* **IV Bioances.** Fundación Genoma España y ANCES.
- Sept. – October 2007* **I CLINIC Joven Emprend@.** Grupo FIDA and Asociación Asturias Emprend@. (130 h.)
- February – March 2006* **Basic Course in Enterprise Formation.** Centro Municipal de Empresas de Gijón (CME). (72 h.)
- December 2005* **Course in Generation of Business Ideas.** Centro Europeo de Empresa e Innovación del Principado de Asturias (CEEI). (12 h.)
- 2003 – 2005* **Postgraduate on Quality Assurance in the Laboratory: ISO 9000, ISO 17025 and GPL.** University of Barcelona virtual (UBV). (170 h.)
- July 2004 – April 2005* **Technician in Environmental Management Systems. ISO 14001 norm and EMAS Regulation.** Formaselect España S.L. (130 h.)
- April – June 2004* **Course in Food Microbiology.** University of Salamanca (140 h.)
- November 2003 – January 2004* **Basic Course in Prevention of Labor Risks.** ECA, Entidad Colaboradora de la Administración, S.A. (50 h.)

OTHERS

Member of Sociedad Española de Cromatografía y Técnicas Afines (SECYTA) and Colegio Oficial de Químicos de Asturias y León.

Co-founder of the *spin-off* “**MicruX Fluidic, S.L.**” (Awarded with BioAnces Prize 2008, XV SODECO Prize, 9th CEEI Prize, ANCES National Prize Accesit, VIII San Alberto Magno Prize, Bancaja Prize 2011), created on December 2008 (www.micruxfluidic.com).

XXXI Award San Alberto Magno (2010) to Doctoral Thesis grants by Colegio Oficial de Químicos de Asturias y León y la Asociación de Químicos del Principado de Asturias.