



UNIVERSITÀ
degli STUDI
di CATANIA



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Formazione

Dottorato in Chimica, Università di Catania, 1996
Laurea in Chimica, Università di Catania, 1992

Esperienza professionale

- Coordinatore progetto europeo HORIZON 2020, ULTRAPLACAD (ULTRAsensitive PLAsmonic devices for early CAncer Diagnosis) Maggio 2015- Ottobre 2018. Il consorzio coinvolto comprende 13 partner distribuiti in 7 nazioni europee. Tra i 13 partner sono comprese 5 aziende europee (Scriba Nanotechnologie , Italia; Ginolis, Finlandia; Future Diagnostics Solution, Olanda; Horiba Jobin Yvon, Francia; Amires, Repubblica Ceca)
- Presidente del Comitato di Garanzia Finanziamento Ricerca di Ateneo - FIR 2014 Università di Catania. (2014)
- Membro Consiglio di Amministrazione Consorzio Catania Ricerche. Ott. 2014- 28 Marzo 2017
- Componente Consiglio Direttivo Consorzio Interuniversitario “Istituto Nazionale di Biostrutture e Biosistemi” 2013- ad oggi
- Coordinatore Gruppo Divisionale Spettroscopia Analitica (Società Chimica Italiana) 2013-2016.
- Management Committee substitute member European COST Action TD1003 Bio-inspired nanotechnologies: from concepts to applications 2011-2014.
- Presidente Corso di Laurea Magistrale in Chimica Biomolecolare (LM-54) 2010- 2015.
- Membro Giunta del Gruppo Interdivisionale Spettroscopie Raman ed Effetti Ottici non Lineari (Società Chimica Italiana) 2009-2012
- Membro Giunta Gruppo Divisionale Spettroscopia Analitica (Società Chimica Italiana) 2009-2012
- Professore Ordinario di Chimica Analitica (CHIM/01), Università di Catania, 2005 – ad oggi
- Associato, Istituto di Biostrutture e Bioimmagini, Consiglio Nazionale delle Ricerche, 2004 – 2015
- Componente Consiglio Direttivo Divisione di Chimica Analitica della Società Chimica Italiana, 2019- ad oggi
- Componente Commissione Ricerca dell’Università degli Studi di Catania, Dic. 2019- ad oggi
- Ricercatore, Chimica Analitica (CHIM/01), Università di Catania, 2003 – 2005
- Visiting Researcher, *Interface Analysis Centre*, Bristol University (U.K.), Feb-Ago 1994

Premi

Premio dell'Accademia Gioienna per la Chimica 1994
The Best Researcher Award, Università di Catania, 2013

Finanziamenti

Ente finanziatore italiano

- Prin 2005, Responsabile Unità (MIUR) (€ 72.000).
- Prin 2007, Responsabile Unità (MIUR) (€ 61.000).
- Prin 2009, Responsabile Unità (MIUR) (€ 32.000).
- HIPPOCRATES, PON02_00355, 2012-2015, resp. unità INBB (MIUR) (€ 359.000).
- Plast_ICs, PON02_00355_3416798, 2012-2015, resp. unità INBB (MIUR) (€ 282.000)
- PROFOOD, PON02_00451_3133441, 2012-2015, resp. unità INBB (MIUR) (€ 454.000).
- NANOMAX, 2013 (CNR) (€ 10.000).
- AHM fo CuHe (Advanced Green Materials for Cultural Heritage) (PNR 2015-2020, MIUR) 2018-2021 (€ 143.350)
- Prin 2017, Responsabile Unità (MIUR) 2019-2022 (€ 194.332)

Ente finanziatore internazionale

-ULTRAPLACAD (ULTRASensitive PLASmonic devices for early CANcer Diagnosis)
Coordinatore del progetto (Horizon 2020 grant agreement n. 633937), 2015-2018
(Commissione Europea, Bruxelles) (totale € 6.026.455. Unità € 833.487,50)

-AiPBAND (An Integrated Platform for Developing Brain Cancer Diagnostic Techniques)
(H2020-MSCA-ITN-2017) Principal Investigator, 2018-2021 (Commissione Europea, Bruxelles) (€ 258.061).

Contratti di ricerca con aziende

- A.T.S. s.r.l., contratto di ricerca CNR, 2004 (€ 62.000).
- Neutron contratto di ricerca CNR, 2006 (€ 21.000).
- Meridionale Impianti S.p.A., contratto di ricerca, 2006 (€ 230.000).
- Dipietrogroup s.r.l. contratto di ricerca, 2012 (€ 120.000).

Valutazione progetti di ricerca

Sono stato consultato quale revisore di progetti di ricerca dalle seguenti istituzioni ed organismi di ricerca :

- MIUR** (PRIN, VQR, Futuro in Ricerca)
- **The Netherlands Foundation for Fundamental Research on Matter** (FOM), Olanda.
- Austrian Institute of Technology** (Austria)
- **Research and Innovation SERI** (Swiss Confederation)
- **Dutch National Science Foundation** (Olanda)
- **Foundation for Polish Science** (Polonia)
- **European Commission: reviewer** (Horizon 2020 ERC consolidator)
- **European Commission: monitore** (Horizon 2020 FET-Open)

Attività di ricerca

Biosensori e microfluidica; Nuovi metodi per la diagnosi clinica; Sistemi molecolari e biomolecolari all'interfaccia solido/liquido.

Comunicazioni a congresso su invito: oltre 100 presentazioni di cui 42 tra presentazioni ad invito a congressi e workshop nazionali ed internazionali.

Relazioni a congressi e seminari su invito

- V Seminario Nazionale di Spettroscopia Analitica, Gargnano, 2001.
- IV Scuola Nazionale di Chimica per i Beni Culturali. Vetro e Ceramica, Altare (SV), 2002.
- Università di Lecce, 15 Novembre 2002.
- Università di Parma, 21 Settembre 2004
- Neutron, Modena 17 Marzo 2006
- STMICROELECTRONICS, Catania 24 Maggio 2006
- Scuola Nazionale di Chimica Analitica per Dottorandi, Roma, 26 Settembre 2006
- LASERION 2007, 1-6 Luglio 2007 Tegernsee, Germania.
- Workshop on Nano-Bio-Photonics: Converging Science and Technologies Status and Perspectives, Rome, 14 September 2007.
- Workshop su Biosensori per l'ambiente e per la salute, Rome, 9-10 October 2007.
- First BioInterface School, Lecce, 16 Novembre 2007
- SCI Convegno Congiunto sezioni Calabria e Sicilia, 4- Dicembre 2007.
- European Materials Research Society Spring Meeting, Strasbourg (France), 9 Giugno 2009.
- Consiglio Nazionale delle Ricerche, Bologna, 15 June 2010
- University of Parma, 18 June 2010
- LASERION 2010, 7-10 July 2010 Tegernsee, Germany.
- TECHNART 2011, 26-29 April 2011 Berlin, Germany.
- NANOMED Italy-Sweden Bilateral Meeting, 29-30 September 2011, Stockholm, Sweden.
- University of Torino, 21 November 2011
- Advanced laser-based techniques in art conservation, diagnostics and analysis, 21 June 2012, Heraklion, Greece
- Department of Chemistry, 22 June 2012, University of Crete, Greece
- XXIII Congresso della Divisione di Chimica Analitica della Società Chimica Italiana, 16-20 Settembre 2012, Isola D'Elba, Italy (Keynote)
- Micro and Nanosystems in Biochemical Analysis, 17-20 October 2012, Warsaw, Poland
- Bioelectrochemistry 2013, 17-21 March 2013, Bochum, Germany
- Laserion 2013, 3-6 July 2013, Tegernsee, Germany.
- 4th Summer Symposium on Nanomaterials and their application to Biology and Medicine, 15th-18th June 2014, Poznań, Poland
- CEITEC Annual Conference on "Frontiers in material and life sciences", 21th – 24th October 2014, Brno, Czech Republic.
- 3rd International Conference BioPhotonics 2015, 20th-22nd May 2015, Florence, Italy
- 5th Summer Symposium on Nanomaterials and their application to Biology and Medicine, 14th-18th June 2015, Zakopane, Poland.
- GS2015, 15th-17th June 2015, Parma, Italy
- Orbitaly 2015, 10-11 September 2015, Modena, Italy.
- AIT- Austrian Institute of Technology, 30th June 2016, Vienna, Austria.
- Nano and Photonics 2017, 24 March 2017, Mauterndorf, Austria.
- TRACE workshop, 29 June 2017, Dublin, Ireland.
- Dipartimento di Chimica "Ugo Schiff", Università degli Studi di Firenze, 6 Settembre 2017.
- Winter School on Biophotonics and Bioelectronics, 22 February 2018, Hirshegg, Austria.
- Twente University, Mesa+, 17 May 2018, Enschede, The Netherlands.
- Bioelectrochemistry, Surfaces, and more... 2019, 6 February 2019, Tulln, Austria.
- MADIA workshop. 11-12 June 2019. Bologna

- PIERS 2019, PhotonIcs & Electromagnetics Research Symposium, 17-20 June 2019, Rome.
- Workshop “From Molecules to Devices”, 6 December 2019, Parma.
- European Conference on Novel Technologies for In Vitro Diagnostics – DIATECH 2020, 26-29 January 2020, Leuven, Belgium (Keynote).

Publicazioni: 103 contributi pubblicati in riviste internazionali peer-reviewed e libri pubblicati da case editrici internazionali.

Libri:

- E. Ciliberto, G. Spoto, Eds., *Modern Analytical Methods in Art and Archaeology*, John Wiley & Sons, Inc., New York, 2000.
- G. Spoto, R. Corradini, Eds., *Detection of Non-Amplified Genomic DNA*, Springer, 2012.

Publicazioni

1. A. Scandurra, A. Torrisi, G. Spoto, I. Fragalà, O. Puglisi, "Fatigue failure mechanisms in Pb95.5Sn2Ag2.5 solder joints: a combined SIMS/XRD study", Materials Research Society Symposium Proceedings, The Material Research Society, Warrendale PA (USA), Aprile, 264, (1992) 257-260.
2. P. Baeri, M.G. Grimaldi, F. la Via, C. Spinella, G. Spoto, "Pulsed Laser Melting and Resolidification of Metal Silicide Layers", International Journal of Thermophysics, New York, N.Y. Plenum Press, Maggio, 14, (1993) 383-387.
3. G.C. Allen, E. Ciliberto, I. Fragalà, R. Parisi, G. Spoto, "Non destructive characterization of artistic artefact materials", in Syntheses and Methodologies in Inorganic Chemistry: New Compounds and Materials, Vol. 3, (1993) 221-226.
4. E. Ciliberto, I. Fragalà, G. Pennisi, G. Spoto, "Bulk and surface characterization of early pigments. Case study of a renaissance smalt", Science and Technology for Cultural Heritage 3, (1994) 163-168.
5. G. Spoto, E. Ciliberto, G.C. Allen, "A new synthetic route to hydroxyapatite coatings", Journal of Materials Chemistry, The Royal Society of Chemistry, Cambridge (U.K.), Dicembre., 4(12), (1994) 1849-1850.
6. E. Ciliberto, G.C. Allen, C. di Stefano, I. Fragalà, G. Spoto, "Surface and bulk analyses of materials used in architectural buildings and paintings: a renaissance portal in Sicily", Analytical Chemistry, The American Chemical Society, Washington D.C. (USA), Aprile, 67, (1995) 249A-253A.
7. E. Ciliberto, I. Fragalà, R. Rizza, G. Spoto, G.C. Allen, "Synthesis of Aluminum Oxide Thin Films: Use of Aluminum Tris-Dipivaloilmethanate as a New Low Pressure Metal Organic Chemical Vapor Deposition Precursor", Applied Physics Letters, American Institute of Physics, Melville, NY (USA), Settembre, 67, (1995) 1624-1626.
8. E. Ciliberto, I. Fragalà, N.A. Mancini, G. Spoto, "Microanalytical Characterization of Art-Work Materials: Spatially Resolved Techniques", Microscopy Microanalysis and Microstructures, Société Française des Microscopies. Parigi (Francia) Ottobre-Dicembre 6, (1995), 533-543.
9. G.C. Allen, I.T. Brown, E. Ciliberto, G. Spoto, "Scanning Ion Microscopy (SIM) and Secondary Ion Mass Spectrometry (SIMS) of Early Iron Age Bronzes", European Mass Spectrometry, IM Publications, Chichester (U.K.), Ottobre, 1, (1995) 493-497
10. P. Picardo, M.R. Pinasco, E. Stagno, M.G. Ienco, E. Ciliberto, G. Spoto, G.C. Allen, C.M. Younes,

- "Characterisation of Ancient Metallic Artefacts with Electron, Optical and Metallographic Techniques", in Proceedings of the 1st International Congress on: Science and Technology for the Safeguard of Cultural Heritage in the Mediterranean Basin, Vol. 1, (1995), 547-551.
11. E.Ciliberto, G. Spoto, M.R. Pinasco, E. Stagno, M.G. Ienco, G.C. Allen, C.M. Younes, "A Comparison Between Different Imaging Techniques in the Study of Materials Used for Works of Art", in Proceedings of the 1st International Congress on: Science and Technology for the Safeguard of Cultural Heritage in the Mediterranean Basin, Vol. 1, (1995), 767-770.
 12. E.Ciliberto, G.Cimino, I.Fragala', S. la Delfa, G. Spoto, "Kaffee Haus, Monastero dei Benedettini: a Microanalytical and Structural Characterisation of the Materials", in Proceedings of the 1st International Congress on: Science and Technology for the Safeguard of Cultural Heritage in the Mediterranean Basin, Vol. 2, (1995), 1015-1017.
 13. E.Ciliberto, G.Cimino, I.Fragala', S. la Delfa, G. Spoto, "Catania City Centre: The Problem of Black Crusts", in Proceedings of the 1st International Congress on: Science and Technology for the Safeguard of Cultural Heritage in the Mediterranean Basin, Vol. 2, (1995), 1019-1022.
 14. E. Ciliberto, R. Chillemi, S. Sciuto, G. Spoto, C. Puglisi, G. Villari, A. Bombaci, "Acts of Vandalism on Archaeological Monuments: The Case of "Villa del Casale", Piazza Armerina", in Proceedings of the 1st International Congress on: Science and Technology for the Safeguard of Cultural Heritage in the Mediterranean Basin, Vol. 1, (1995), 785-788.
 15. G.C.Allen, E.Ciliberto, I. Fragala', G.Spoto, "Surface and Bulk study of Calcium Phosphate Bioceramics Obtained by Metal Organic Chemical Vapor Deposition", Nuclear Instruments and Methods in Physic Research B, Elsevier, Amsterdam, Agosto, 116, (1996) 457-460.
 16. R.Rizza, D. Fitzmaurice, S. Hearne, G. Hughes, E.Ciliberto, G. Spoto, "Self-Assembly of Monolayers of Semiconductor Nanocrystallites", Chemistry of Materials, The American Chemical Society, Dicembre, 9, (1997) 2969-2982.
 17. E. Ciliberto, G. Spoto, "Fluorapatite Coatings by Metal Organic Chemical Vapor Deposition", Chemical Communications, The Royal Society of Chemistry, Cambridge (U.K.), Agosto, 16, (1997) 1483-1484.
 18. E. Ciliberto, G. Spoto, M. Matteini, C. Puglisi, "A Scientific Approach for Cultural Heritage Preservation: Case Study of Vandalic Acts on Important Roman Mosaics", Journal of Chemical Education, The American Chemical Society, Ottobre, 75 (1998) 1302-1306.
 19. G. Spoto, "Molecular and Structural Analysis", in Modern Analytical Methods in Art and Archaeology, E. Ciliberto e G. Spoto, Eds., John Wiley & Sons, Inc. New York, Giugno, 2000, pp. 167-175.
 20. G. Spoto, E. Ciliberto, "X-Ray Photoelectron Spectroscopy and Auger Electron Spectroscopy in Art and Archaeology", in Modern Analytical Methods in Art and Archaeology, E. Ciliberto e G. Spoto, Eds., John Wiley & Sons, Inc. New York, Giugno, 2000, pp. 363-404.
 21. G. Spoto, E. Ciliberto, G.C. Allen, C.M. Younes, P. Piccardo, M.R. Pinasco, E. Stagno, M.G. Ienco, R. Maggi, "Chemical and Structural Properties of Ancient Metallic Artefacts: Multitechnical Approach to the Study of Early Bronzes", British Corrosion Journal, The Institute of Materials, Londra (U.K.), Marzo, 35(1), (2000), 43-47.
 22. F. Iacona, G. Casella, F. La Via, S. Lombardo, V. Raineri, G. Spoto, "Structural Properties of Fluorinated SiO₂ Thin Films", Microelectronic Engineering, Elsevier, Amsterdam, Gennaio, 50 (1-4), (2000), 67-74.
 23. G. Spoto, A. Torrisi, A. Contino, "Probing Archaeological and Artistic Solid Materials by Spatially Resolved Analytical Techniques", Chemical Society Reviews, Cambridge (U.K.), Ottobre, 29, (2000), 429-439.

24. G. Spoto, P. Rizzarelli, A. Torrissi,
“Fluorinated Phosphoric Ester-based Protective Material for Limestone-made Ancient Monuments, Buildings and Artifacts: an X-ray Photoelectron Spectroscopy Study”, *Applied Spectroscopy*, The Society for Applied Spectroscopy, Frederick, MD (USA), Dicembre, 54(12), 2000, 1817-1821.
25. G. Arena, A. Contino, A. Magri, D. Sciotto, G. Spoto, A. Torrissi,
“Strategies Based on Calixcrowns for the Detection and Removal of Cesium Ions from Alkali Containing Solutions”, *Industrial and Engineering Chemistry Research*, The American Chemical Society, Washington D.C. (USA), Ottobre, 39, (2000), 3605-3610
26. G. Spoto,
“Secondary Ion Mass Spectrometry in Art and Archaeology”, *Thermochimica Acta*, Elsevier, Amsterdam, Dicembre, 365(1-2), (2000), 157-166.
27. F. Iacona, G. Ceriola, G. Spoto,
“Infrared Spectroscopy Study of the Thermal Stability of Fluorinated SiO₂ Thin Films”, *Journal of Electrochemical Society*, The Electrochemical Society, Pennington, (USA), Aprile, 148(4), 2001, F47-F50.
28. G. Spoto,
“A restorer on trial”, *Chemistry in Britain*, The Royal Society of Chemistry, London (U.K.), Agosto, 37(8), 2001, 22-23. . (Su invito)
29. G. Arena, A. Contino, E. Longo, D. Sciotto, G. Spoto
“Selective complexation of soft Pb²⁺ and Hg²⁺ by a novel allyl functionalized thioamide calix[4]arene in 1,3-alternate conformation: a UV-visible and ¹H NMR spectroscopic investigation”, *Perkin Transactions 2*, The Royal Society of Chemistry, London (U.K.), Dicembre, 2001, 2287-2291.
30. G. Spoto
“Detecting Past Attempts to Restore Two Important Works-of-Art”, *Accounts of Chemical Research*, American Chemical Society, Washington D.C., (U.S.A.), 35(8), 2002, 652-659. (Su invito)
31. G. Arena, A. Contino, E. Longo, D. Sciotto, G. Spoto, A. Torrissi
“Two calix-crown based stationary phases. Synthesis, chromatographic performance and X-ray photoelectron spectroscopy investigation”, *Journal of Supramolecular Chemistry*, Elsevier, Amsterdam, Dicembre, 2(6), 2002, 521-531.
32. G. Spoto
“Chemical Methods in Archaeology”, *Kirk-Othmer Encyclopedia of Chemical Technology*, 5th Edition, Wiley InterScience, John Wiley & Sons Inc., New York., versione on-line DOI: 10.1002/0471238961.0308051319161520.a01, Aprile, 2003, versione cartacea Vol 5, Agosto 2004, pp. 739-758. . (Su invito)
33. G. Spoto
“Studying Archaeological Remains. A Great Challenge for Modern Chemistry”, *La Chimica e L’Industria*, Milano, 84(10), 2002, 1-5. . (Su invito)
34. G. Arena, A. Contino, E. Longo, D. Sciotto, C. Sgarlata, G. Spoto,
“Synthesis, characterization of a novel calixarene having dipyriddy pendant and study of its complexes with Cu(II) and Co(II)” *Tetrahedron Letters*, Elsevier, Amsterdam, (2003), 44(29), 5415-5418.
35. G. Arena, A. Contino, E. Longo, G. Spoto, A. Arduini, A. Pochini, A. Secchi, C. Massera, F. Ugozzoli. “An integrated approach to the study of the recognition of guests containing CH₃ and CH₂ acidic groups by differently rigidified cone p-tert-butylcalix[4]arene derivatives”, *New Journal of Chemistry*, The Royal Society of Chemistry, London (U.K.), Gennaio, 28, 2004, 56-61
36. G. Arena, A. Contino, E. Longo, C. Sgarlata, G. Spoto, V. Zito,

- “Self-assembling, patterning and SPR imaging of a 1,3 alternate bis(dipyridyl)calix[4]arene derivative-Cu²⁺ complex immobilized onto Au(111) surfaces” *Chemical Communications*, The Royal Society of Chemistry, London (U.K.), Agosto, 16, 2004, 1812-1813.
37. E. De Giglio, S. Cometa, L. Sabbatini, P.G. Zambonin, G. Spoto,
“Electrosynthesis and analytical characterization of PMMA coatings on titanium substrates as barrier against ion release”, *Analytical and Bioanalytical Chemistry*, Springer-Verlag Heidelberg, Gennaio 2005, 381(3), 626 - 633.
38. G. Arena, R. P. Bonomo, A. Contino, C. Sgarlata, G. Spoto, G. Tabbi
“Influence of the coordination geometry on the physicochemical properties of a copper(II) complex with a tailor made calixarene-based ligand bearing dipyridyl pendants. An ESR, UV-Vis and CV study” *Dalton Transactions*, The Royal Society of Chemistry, London (U.K.), 2004, (20), 3205 – 3211.
- 39 G. Arena, A. Contino, R. D’Agata, C. Sgarlata, G. Spoto
“Ordered anchored cavities at work: A new and rapid SPR-based method for the detection of trace amounts of Cs⁺”. *New Journal of Chemistry*, The Royal Society of Chemistry, London (U.K.), Novembre, 2005, 29, 1393 - 1395.
40. G. Grasso, R. D’Agata, E. Rizzarelli, G. Spoto, L. D’Andrea, C. Pedone, A. Picardi, A. Romanelli, M. Fragai, K. Joo Yeo
“Activity of Anchored Human Matrix Metalloproteinase-1 Catalytic Domain on Au (111) Surfaces Monitored by ESI-MS”. *Journal of Mass Spectrometry*, Wiley Interscience, Dicembre, 2005, 40, 1565-1571.
41. R. D’Agata, G. Grasso, G. Iacono, G. Spoto, G. Vecchio
“A Surface Plasmon Resonance Imaging study of the lectin recognition of a new SOD mimic bioconjugate”. *Organic & Biomolecular Chemistry*, The Royal Society of Chemistry, London (U.K.), Febbraio, 2006, 4; 610-612.
- 42 G. Spoto,
“Chemical Methods in Archaeology” *Kirk-Othmer Encyclopedia of Chemical Technology*, Concise, 5th Edition, (ISBN 978-0-470-04748-4), John Wiley & Sons Inc., New York., (USA) Maggio 2007, 73-75.
- 43 G. Grasso, M. Fragai, E. Rizzarelli, G. Spoto, K.J. Yeo,
“In Situ AP/MALDI-MS characterization of anchored MMPs”, *Journal of Mass Spectrometry*, Wiley Interscience, Dicembre 2006; 41: 1561–1569
- 44 G. Grasso, M. Fragai, E. Rizzarelli, G. Spoto, K.J. Yeo,
“A new methodology for monitoring the activity of cdMMP-12 anchored and freeze-dried on Au (111)”, *Journal of the American Society for Mass Spectrometry*, Maggio 2007, 18(5), 961-969.
- 45 G. Arena, I. Deretzis, G. Forte, F. Giannazzo, A. La Magna, G. Lombardo, V. Raineri, C. Sgarlata, G. Spoto
“Electron transport properties of calix[4]arene based systems in a metal-molecule-metal junction: characterization by conducting-atomic force microscopy and theoretical calculations”, *New Journal of Chemistry*, The Royal Society of Chemistry, London (U.K.), 2007, 31(5), 756-761.
- 46 R. D’Agata, G. Grasso, S. Parlato, S. Simone, G. Spoto,
“The Use of Atmospheric Pressure Laser Desorption Mass Spectrometry for the Study of Iron-Gall Ink”, *Applied Physics A*, Springer, Berlin (Germania). 2007, 89, 91-95. Invited paper
- 47 . G. Grasso, E. Rizzarelli, G. Spoto
AP/MALDI-MS complete characterization of Insulin fragments produced by the interaction of IDE with bovine Insulin, *Journal of Mass Spectrometry Wiley Interscience*, Dicembre 2007, 42, 1590-1598.
48. M. Licciardello, R. D’Agata, G. Grasso, S. Simone, G. Spoto,
Atmospheric Pressure Laser Desorption Mass Spectrometry based methods for the study of traditional painting materials, in *Laser in Conservation of Artworks*, (Ed. M. Castillejo), Taylor & Francis, London, 2008, 67-72.

49. R. D'Agata, G. Grasso, G. Spoto
Real-time binding kinetics monitored with surface plasmon resonance imaging in a diffusion-free environment, *The Open Spectroscopy Journal*, Bentham Science Publishers, 2008, 1, 1-9.
50. G. Grasso, E. Rizzarelli, G. Spoto
How the binding and degrading capabilities of insulin degrading enzyme are affected by ubiquitin, *Biochimica et Biophysica Acta - Proteins and Proteomics*, Elsevier, 2008, 1784, 1122-1126.
51. R. D'Agata, R. Corradini, G. Grasso, R. Marchelli, G. Spoto
Ultrasensitive Detection of DNA by PNA and Nanoparticle-Enhanced Surface Plasmon Resonance Imaging, *ChemBioChem*, Wiley Interscience, Agosto, 2008, 9(13), 2067-2070
52. Giuseppe Grasso, Ashley I. Bush, Roberta D'Agata, Enrico Rizzarelli, Giuseppe Spoto
Enzyme solid-state support assays: a surface plasmon resonance and mass spectrometry coupled study of immobilized insulin degrading enzyme, *EUROPEAN BIOPHYSICS JOURNAL WITH BIOPHYSICS LETTERS*, Springer, 2009, 38(4), 407-414.
53. Giuseppe Grasso, Enrico Rizzarelli, Giuseppe Spoto
The Proteolytic Activity of Insulin-Degrading Enzyme: a Mass Spectrometry Study
Journal of Mass Spectrometry Wiley Interscience, 2009, 44(5), 735-741.
54. M. Coletta; C. Ciaccio, G. R Tundo, G. Grasso, G. Spoto, D. Marasco, M. Ruvo, M. Gioia, E. Rizzarelli, "Somatostatin: a novel substrate and a modulator of insulin-degrading enzyme activity"
Journal of Molecular Biology, Elsevier, (2009) 385, 1556–1567
55. R. D'Agata, R. Corradini, R. Marchelli, G. Spoto
Surface plasmon resonance imaging e acidi peptido nucleici: un approccio combinato per la rivelazione ultrasensibile di DNA, *La Chimica & l'Industria*, (2009), 5, 92-97.
56. L. Zanolì, R. D'Agata, G. Spoto
"Surface Plasmon-based Optical Detection of DNA by Peptide Nucleic Acids"
Minerva Biotecnologica: Journal on Biotechnology and Molecular Biology, Minerva Medica, (2008), 20, 165-174.
57. Rosangela Marchelli, Emanuela Licandro, Michele Saviano, Giuseppe Spoto, Monica Borgatti Roberto Gambari
"PNAs targeting the "RNA world": micro RNA next?"
Minerva Biotecnologica: Journal on Biotechnology and Molecular Biology, Minerva Medica, (2008), 20, 183-188.
58. G. Grasso, P. Mineo, E. Rizzarelli, G. Spoto
"MALDI, AP/MALDI and ESI techniques for the MS detection of amyloid- β peptides",
International Journal of Mass Spectrometry, Elsevier, (2009), 282(1-2), 50-55.
59. G. Grasso, R. D'Agata, L. Zanolì, G. Spoto
"Microfluidic Networks for Surface Plasmon Resonance Imaging Real-Time Kinetics Experiments", *Microchemical Journal*, Elsevier, (2009), 93, 82–86.
60. G. Grasso, L. D'Urso, E. Messina, F. Cataldo, O. Puglisi, G. Spoto, G. Compagnini
"A mass spectrometry and surface enhanced Raman spectroscopy study of the interaction between linear carbon chains and noble metals", *Carbon*, (2009), 47(11), Elsevier, 2611-2619.
61. L. Giurato, A. Candura, G. Grasso, G. Spoto
In Situ Identification of Organic Components of Ink Used in Books from the 1900s by Atmospheric Pressure Matrix Assisted Laser Desorption Ionization Mass Spectrometry", *Applied Physics A*, Springer, (2009), 97, 263-269. Invited paper
62. L. D'Urso, G. Grasso, E. Messina, C. Bongiorno, V. Scuderi, S. Scalese, O. Puglisi, G. Spoto, G. Compagnini,
"The Role of Linear Carbon Chains on the Aggregation of Copper, Silver and Gold Nanoparticles"
The Journal of Physical Chemistry C, (2010), 114, 907–915.
63. G. Spoto,
"Spatially Resolved MS in the Study of Art and Archaeological Objects" in "Handbook of Mass Spectrometry", First Edition. Ed. Mike S. Lee, John Wiley & Sons, New York, 2012.

64. R. D'Agata, R. Corradini, C. Ferretti, L. Zanolì, M. Gatti, R. Marchelli, G. Spoto "Ultrasensitive detection of non-amplified genomic DNA by nanoparticle-enhanced Surface-Plasmon Resonance Imaging", *Biosensors & Bioelectronics*, Elsevier, (2010), 25, 2095–2100.
65. R. D'Agata, R. Corradini, C. Ferretti, L. Zanolì, M. Gatti, R. Marchelli, G. Spoto "Detection of non amplified genomic DNA by advanced SPRI methods", *La Chimica & l'Industria*, (2010), 7, 140-145.
66. D' Agata R, Breveglieri G., Zanolì L, Borgatti M, Spoto G, Gambari R Surface Plasmon Resonance Imaging (SPR-I), peptide nucleic acid (PNA) probes and nanoparticle-enhancement for PCR-free ultrasensitive detection of beta-thalassemia mutations in human genomic DNA. *International Journal of Molecular Medicine*, (2010), 26; S61 ISSN: 1107-3756.
67. Giuseppe Grasso, Adriana Pietropaolo, Giuseppe Spoto, Giuseppe Pappalardo, Grazia Raffaella Tundo, Chiara Ciaccio, Massimo Coletta, Enrico Rizzarelli "Copper(I) and copper(II) inhibit A β peptides proteolysis by insulin-degrading enzyme differently: implications for metallostasis alteration in Alzheimer's disease", *Chemistry – A European Journal*, (2011), 17(9), 2752–2762.
68. Laura Maria Zanolì, Roberta D'agata, Giuseppe Spoto, Roberto Corradini, Rosangela Marchelli, Cristina Ferretti, Marcello Gatti "Ultrasensitive Detection of Non Amplified Genomic DNA" in *Sensors and Microsystems*, Eds. G. Neri, N. Donato, A. D'Amico, C. Di Natale, Springer, 2011, 485-493.
69. G. Spoto, G. Grasso "Spatially Resolved Mass Spectrometry: Applications in the Study of Art and Archaeological Objects", *TRAC – Trends in Analytical Chemistry*, (2011), 30(6), 856-863.
70. R. D'Agata, L.M. Zanolì, G. Breveglieri, M. Borgatti, A. Finotti, G. Spoto, R. Gambari, "Detection of genomic disorders in unamplified human genomic DNA using an ultrasensitive surface plasmon resonance imaging method" *International Journal of Molecular Medicine* (2011), 28, S59.
71. L. M. Zanolì, R. D'Agata, G. Spoto "Functionalized gold nanoparticles for the ultrasensitive DNA detection" *Analytical and Bioanalytical Chemistry*, Springer-Verlag, (2012) 402, 1759–1771. (Selected Hot Article)
72. Nevin, G. Spoto, D. Anglos "Laser spectroscopies for elemental and molecular analysis in art and archaeology" *Applied Physics A*, Springer, (2012) 106, 339–361.
73. Roberta D'Agata , Giulia Breveglieri , Laura Maria Zanolì , Monica Borgatti, Giuseppe Spoto, Roberto Gambari "Direct Detection of Point Mutations in Non-amplified Human Genomic DNA" *Analytical Chemistry*. American Chemical Society, (2011) 83(22), 8711-8717.
74. Laura Maria Zanolì, Marco Licciardello, Roberta D'Agata, Claudia Lantano, Alessandro Calabretta, Roberto Corradini, Rosangela Marchelli, Giuseppe Spoto "Peptide Nucleic Acid Molecular Beacons for the Detection of PCR Amplicons in Droplet-Based Microfluidic Devices" *Analytical and Bioanalytical Chemistry*, Springer-Verlag, (2013), 405 (2-3) 615-624. DOI: 10.1007/s00216-011-5638-3.
75. R. D'Agata, G. Spoto, "Surface plasmon resonance-based methods", in *Detection of Non Amplified Genomic DNA*, Eds. R. Corradini, G. Spoto, Springer-Verlag, 2012 (ISBN 978-94-007-1225-6).
76. R. D'Agata, G. Spoto "Artificial DNAs and surface plasmon resonance" *Artificial DNA: PNA & XNA*, Landes Biosciences, 2012, 3(2), 45-52.
77. Giuseppe Grasso, Fabrizio Salomone, Grazia R. Tundo, Giuseppe Pappalardo, Chiara Ciaccio, Giuseppe Spoto, Adriana Pietropaolo, Massimo Coletta, Enrico Rizzarelli Metal ions affect insulin-degrading enzyme activity *Journal of Inorganic Biochemistry* (2012) 117, 351-358, doi: 10.1016/j.jinorgbio.2012.06.010

78. L.M. Zanoli, G. Spoto
Isothermal Amplification Methods for the Detection of Nucleic Acids in Microfluidic Devices
Biosensors 2013, 3, 18-43; doi:10.3390/bios3010018
79. G. Grasso, G. Spoto
Plasmonics for the study of metal ion-protein interactions *Analytical and Bioanalytical Chemistry*,
10.1007/s00216-012-6421-9. 2013 Feb;405(6):1833-43
80. G. Spoto, M. Minunni
“Surface Plasmon Resonance imaging: What's next?”, *The Journal of Physical Chemistry Letters*,
American Chemical Society, 2012, 3, 2682–2691
81. R. D'Agata, G. Spoto
“Surface Plasmon Resonance Imaging for Nucleic Acid Detection” *Analytical and Bioanalytical
Chemistry*, 2013, 405 (2-3), 573-584.
82. G. Spoto
“Chemical Methods in Archaeology”, *Kirk-Othmer Encyclopedia of Chemical Technology*, John
Wiley & Sons, Inc., 2013, DOI: 10.1002/0471238961.0308051319161520.a01.pub2
- 83 V. Oliveri, R. D'Agata, V. Giglio, G. Spoto, G. Vecchio
“Cyclodextrin-functionalised gold nanoparticles via streptavidin: a supramolecular approach”
Supramolecular Chemistry, 25(8), 2013, 465-473
- 84 A. Bertucci, A. Manicardi, A. Candiani, S. Giannetti, A. Cucinotta, G. Spoto, M. Konstantaki, S.
Pissadakis, S. Selleri, R. Corradini
“Detection of unamplified genomic DNA by a PNA-based microstructured optical fiber (MOF)
Bragg-grating optofluidic system”. *Biosensors and Bioelectronics* 63 (2015) 248–254.
85. Maria Chiara Giuffrida, Laura Maria Zanoli, Roberta D'Agata, Alessia Finotti, Roberto
Gambari, Giuseppe Spoto
“Isothermal circular strand displacement polymerization of DNA and microRNA in digital
microfluidic devices”, *Analytical & Bioanalytical Chemistry* 407 (2015) 1533–1543. special issue
“Rising Stars and Top Experts”
- 86 Valeria Lanza, Roberta D'Agata, Giuseppe Iacono, Francesco Bellia, Giuseppe Spoto, Graziella
Vecchio
Cyclam glycoconjugates as lectin ligands and protective agents of metal-induced amyloid
aggregation *Journal of Inorganic Biochemistry* 153 (2015) 377–382
87. M. C. Giuffrida, L. M. Zanoli, R. D'Agata, A. Finotti, J. Gasparello, M. Borgatti, R. Gambari,
G. Spoto.
Digital microfluidic devices for isothermal circular strand displacement polymerization of
microRNAs. *International Journal of Molecular Medicine*, Vol. 36, Suppl 1, 2015, pag. S106.
88. P. Palladino. A.M. Aura, G. Spoto
Surface Plasmon Resonance For The Label-Free Detection of Alzheimer's β -Amyloid Peptide
Aggregation. *Analytical & Bioanalytical Chemistry* (2016) 408 (3), 849-854. DOI:
10.1007/s00216-015-9172-6.
89. Valentina Giglio, Maurizio Viale, Massimiliano Monticone, Angela Margherita Aura, Giuseppe
Spoto, Giovanni Natile, Francesco Paolo Intini, Graziella Vecchio.
Cyclodextrin polymers as carries for the platinum-based anticancer agent LA-12. *RSC Advances*.
(2016) 6, 12461-12466.
90. N. Bellassai, G. Spoto
Biosensors for liquid biopsy: circulating nucleic acids to diagnose and treat cancer. *Analytical &
Bioanalytical Chemistry* (2016) 408:7255-7264. DOI 10.1007/s00216-016-9806-3.
- 91 M.C. Giuffrida, G. Spoto
Integration of isothermal amplification methods in microfluidic devices: recent advances.
Biosensors and Bioelectronics. 90 (2017) 174–186. 10.1016/j.bios.2016.11.045
92. R. D'Agata, P. Palladino, G. Spoto

- Streptavidin-coated gold nanoparticles: critical role of oligonucleotides on stability and fractal aggregation. *Beilstein Journal of Nanotechnology*, 2017, 8, 1-11.
93. M. C. Giuffrida, R. D'Agata, G. Spoto
Droplet Microfluidic Device Fabrication and Use for Isothermal Amplification and Detection of MicroRNA. In *MicroRNA Detection and Target Identification: Methods and Protocols, Methods in Molecular Biology*, Tamas Dalmay (ed.), vol. 1580, DOI 10.1007/978-1-4939-6866-4_6, Springer Science+Business Media LLC, 2017, pp. 71-78.
94. G. Grasso, M. Calcagno, A. Rapisarda, R. D'Agata, G Spoto
Atmospheric pressure MALDI for the non-invasive characterization of carbonaceous ink from Renaissance documents. *Analytical & Bioanalytical Chemistry*. 2017, 409:3943–3950.
- 95 AM Aura, R D'Agata, G Spoto
Ultrasensitive Detection of *Staphylococcus aureus* and *Listeria monocytogenes* Genomic DNA by Nanoparticle-Enhanced Surface Plasmon Resonance Imaging. *ChemistrySelect* 2 (24), 2017, 7024–7030
- 96 R D'Agata, MC Giuffrida, G Spoto
Peptide Nucleic Acid-Based Biosensors for Cancer Diagnosis. *Molecules* 22 (11), 2017, 1951
97. Marcello Berto, Chiara Diacci, Roberta D'Agata, Marcello Pinti, Elena Bianchini, Michele Di Lauro, Stefano Casalini, Andrea Cossarizza, Magnus Berggren, Daniel Simon, Giuseppe Spoto, Fabio Biscarini, Carlo A. Bortolotti
EGOFET Peptide Aptasensor for Label-Free Detection of Inflammatory Cytokines in Complex Fluids. *Advanced Biosystems*, 2017, 1700072
- 98 Maria Chiara Giuffrida, Giovanni Cigliana, Giuseppe Spoto,
Ultrasensitive detection of lysozyme in droplet-based microfluidic devices. *Biosensors and Bioelectronics*, 104, 2018, 8-14. doi: 10.1016/j.bios.2017.12.042
- 99 A. Finotti, M. Allegretti, J. Gasparello, P. Giacomini, D.A. Spandidos, Giuseppe Spoto, R. Gambari,
Liquid biopsy and PCR-free ultrasensitive detection systems in oncology. *International Journal of Oncology*, 53(4), 2018, 1395-1434.
- 100 Noemi Bellassai, Almudena Marti, Giuseppe Spoto, Jurriaan Huskens
Low-fouling, mixed-charge poly-L-lysine polymers with anionic oligopeptide side-chains. *Journal of Materials Chemistry B*, 2018, 6, 7662. DOI:10.1039/C8TB01619D
- 101 R D'Agata, G Spoto, Advanced methods for microRNA biosensing: a problem-solving perspective. *Analytical and Bioanalytical Chemistry*, 2019. doi.org/10.1007/s00216-019-01621
- 102 G. Spoto, *Mass Spectrometry in the Study of Art and Archaeological Objects*, in *Mass Spectrometry: An Applied Approach*. edited by Marek Smoluch, Giuseppe Grasso, Piotr Suder, Jerzy Silberring. Wiley, 2019, 345-350
- 103 Noemi Bellassai, Roberta D'Agata, Vanessa Jungbluth, Giuseppe Spoto, *Surface Plasmon Resonance for Biomarker Detection: Advances in Non-invasive Cancer Diagnosis*. *Frontiers in Chemistry*, 7, 2019, 570. DOI: 10.3389/fchem.2019.00570.

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