

Francesco Poggialini

Curriculum Vitæ

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🌐 Francesco Poggialini



Education

- 2017–Present **PhD**, *Scuola Normale Superiore*, Pisa, Italy.
Methods and Models for Molecular Sciences
- 2013–2016 **Master of Chemistry**, *Università di Pisa*, Pisa, Italy, *110/110 cum Laude*.
Analytical Chemistry
- 2009–2013 **Bachelor of Chemistry**, *Università degli Studi di Siena*, Siena, Italy, *110/110 cum Laude*.
Bachelor Thesis: "Structural Bioinformatics for the Study of the Correlation Between Genetic Mutations and Eyesight Pathologies"
- 2004–2009 **High School Diploma**, *I.T.I.S. "Tito Sarrocchi"*, Siena, Italy, *100/100*.
Italian High School Scientific Diploma

Master thesis

- Title *"Green" Synthesis of Nanoparticles and their Application in Laser Induced Breakdown Spectroscopy (LIBS)*
- Supervisors Prof. V. Palleschi, ALS Lab, ICCOM CNR Pisa – Prof. S. Giannarelli, Department of Chemistry, Università di Pisa
- Short Abstract In this work, we adapted a simple, fast, low cost method for the synthesis of silver nanoparticles using Coffee extract. The nanoparticles were used successfully for the enhancement of LIBS signal for metallic and non-metallic samples.

Experience

Vocational

- 2/2017–11/2017 **Research Fellow**, *ALS Lab, ICCOM CNR*, Pisa, Italy.
- My work was focused on the operation and optimization of the LIBS instrumentation for both laboratory and field analysis. I also had the opportunity to collaborate in other projects, using a variety of analytical techniques. Detailed achievements:
- Acquired and improved knowledge on the synthesis of metal nanoparticles;
 - Acquired knowledge in multiple analytical techniques:
 - LIBS theory, application and operation;
 - Raman theory, application and operation;
 - XRF theory, application and operation;
 - UV-Vis Spectroscopy theory, application and operation;
 - Acquired knowledge in forensic, environmental and cultural heritage analysis and scientific investigation;
 - Improved general laboratory skills;
 - Improved teamwork skills;
- 1/2012–12/2013 **Technician**, *Eurocert S.R.L.*, Tuscany, Italy.
- Main activities and responsibilities: Sample retrieval for drinkable water analysis.
Acquired skills and achieved objectives: Autonomous tasks management, Sample handling, Troubleshooting, Interaction with individuals and companies

Additional **Academic Career & Internships**, Università degli Studi di Siena, Università di Pisa, CNR.
Instrument Basic knowledge of NMR operation and spectra interpretation, basic knowledge of Fluorescence Spectroscopy
Experience operation and results interpretation, good knowledge of GC/LC/HPLC operation and results interpretation, good knowledge of Mass Spectrometry operation and results interpretation

Internships

- 10/2012– **Bachelor Thesis Internship**, *Università degli Studi di Siena & Novartis*, Siena, Italy.
4/2013 Main activities and responsibilities: Database analysis, Protein modeling, Correlation studies between amino-acid mutations, Protein structure and function
- 1/2016– **Master Thesis Internship**, *DCCI, Università di Pisa & ALS Lab, ICCOM CNR*, Pisa, Italy.
12/2016 Main activities and responsibilities: Development and optimization of new analytical methodologies, Synthesis of metal nanoparticles, Basic and advanced laboratory procedures, Analysis with UV-Vis spectrometers, LIBS, Raman, TEM, XRF, Optical microscopy

Miscellaneous

- 1/2012– **Customer Service**, *SMFN Library, Università degli Studi di Siena*, Siena, Italy.
12/2012 Main activities and responsibilities: Customer support, Books and documents management, Logistics
- 3/2014– **Customer Service**, *DCCI Library, Università di Pisa*, Pisa, Italy.
12/2014 Main activities and responsibilities: Customer support, Books and documents management, Logistics

Conferences and Seminars

- 11– **CSI XL–EMS LIBS**, *Role: Organizing Committee and Oral Communication*, Pisa, Italy, *Curatorships:*
16/6/2017 *A. D'Ulivo, V. Palleschi.*
- 04– **Plasmonica 2018**, *Role: Poster Presentation*, Florence, Italy, *Curatorships: F. Biccari, F. Pineider, F.*
06/7/2018 *Intonti, C. Toninelli.*

Languages

Italian Mother Tongue
English Excellent (C1)

PET Certificate – Pass with Merit (2009)

Digital Competence

Information Processing Proficient User

Content Creation Independent User

Communication Proficient User

Problem Solving Independent User

Safety Proficient User

Software Knowledge

- Programming Languages: Python, FORTRAN 95, Basic Arduino Knowledge
- Office Packages: Microsoft Office, Apache Open Office
- Notes Processing: LateX, Notepad++
- Data Analysis: XLStat, Origin, Basic Matlab knowledge
- Image Manipulation: GIMP, Adobe Photoshop
- Other: Good knowledge of several softwares for analytical instrumentation operation and chemical analysis data management, good knowledge of chemistry-related tools like ChemSketch and ChemDraw, excellent knowledge of scientific papers and information search engines (SciFinder, Scopus, PubMed)

Driving Licence

Italian A2 and B

Publications

As Author

- F. Poggialini, B. Campanella, S. Giannarelli, E. Grifoni, S. Legnaioli, G. Lorenzetti, S. Pagnotta, A. Safi, V. Palleschi, Green-synthesized silver nanoparticles for Nanoparticle-Enhanced Laser Induced Breakdown Spectroscopy (NELIBS) using a mobile instrument, *Spectrochimica Acta - Part B Atomic Spectroscopy* (2018) **141** 53-58
- F. Poggialini, B. Campanella, T. Cavaleri, S. Legnaioli, G. Lorenzetti, L. Nodari, S. Pagnotta, P. Tomasin, V. Palleschi, Electroless deposited silver dendrites for SERS identification of natural dyes on laboratory-dyed and historic textiles, *European Physical Journal Plus* (2018) **133**(12) Article Number 550

As Co-Author

- Schiavo C., Menichetti L., Grifoni E., Legnaioli S., Lorenzetti G., Poggialini F., Pagnotta S., Palleschi V., High-resolution three-dimensional compositional imaging by double-pulse laser-induced breakdown spectroscopy, *Journal of Instrumentation* (2016) **11**(8)
- Grifoni E., Legnaioli S., Lorenzetti G., Poggialini F., Pagnotta S., Palleschi V., From Calibration-Free to Fundamental Parameters Analysis: A comparison of three recently proposed approaches, *Spectrochimica Acta - Part B Atomic Spectroscopy* (2016) **124** 40-46
- Grassi R., Grifoni E., Gufoni S., Legnaioli S., Lorenzetti G., Macro N., Menichetti L., Pagnotta S., Poggialini F., Schiavo C., Palleschi V., Three-dimensional compositional mapping using double-pulse micro-laser-induced breakdown spectroscopy technique, *Spectrochimica Acta - Part B Atomic Spectroscopy* (2017) **127** 1-6
- Lezzerini M., Ripoll-Seguer L., Hidalgo M., Grifoni E., Legnaioli S., Lorenzetti G., Pagnotta S., Poggialini F., Palleschi V., Micro-Laser-Induced Breakdown Spectroscopy (Micro-LIBS) Study on Ancient Roman Mortars, *Applied Spectroscopy* (2017) **71**(4) 721-727
- Pagnotta S., Legnaioli S., Campanella B., Grifoni E., Lezzerini M., Lorenzetti G., Palleschi V., Poggialini F., Raneri S., Micro-chemical evaluation of ancient potsherds by μ -LIBS scanning on thin section negatives, *Mediterranean Archaeology and Archaeometry* (2018) **18**(5) 171-178
- Senesi G.S., Campanella B., Grifoni E., Legnaioli S., Lorenzetti G., Pagnotta S., Poggialini F., Palleschi V., De Pascale O., Elemental and mineralogical imaging of a weathered limestone rock by double-pulse micro-Laser-Induced Breakdown Spectroscopy, *Spectrochimica Acta - Part B Atomic Spectroscopy* (2018) **143** 91-97
- Safi A., Campanella B., Grifoni E., Legnaioli S., Lorenzetti G., Pagnotta S., Poggialini F., Ripoll-Seguer L., Hidalgo M., Palleschi V., Multivariate calibration in Laser-Induced Breakdown Spectroscopy quantitative analysis: The dangers of a 'black box' approach and how to avoid them, *Spectrochimica Acta - Part B Atomic Spectroscopy* (2018) **144** 46-54
- Campanella B., Degano I., Grifoni E., Legnaioli S., Lorenzetti G., Pagnotta S., Poggialini F., Palleschi V., Identification of inorganic dyeing mordant in textiles by surface-enhanced laser-induced breakdown spectroscopy, *Microchemical Journal* (2018) **139** 230-235
- Pagnotta S., Lezzerini M., Campanella B., Gallelo G., Grifoni E., Legnaioli S., Lorenzetti G., Poggialini F., Raneri S., Safi A., Palleschi V., Fast quantitative elemental mapping of highly inhomogeneous materials by micro-Laser-Induced Breakdown Spectroscopy, *Spectrochimica Acta - Part B Atomic Spectroscopy* (2018) **146** 9-15
- Campanella B., Grifoni E., Hidalgo M., Legnaioli S., Lorenzetti G., Pagnotta S., Poggialini F., Ripoll-Seguer L., Palleschi V., Multi-technique characterization of madder lakes: A comparison between non- and micro-destructive methods, *Journal of Cultural Heritage* (2018) **33** 208-212
- Grifoni E., Legnaioli S., Nieri P., Campanella B., Lorenzetti G., Pagnotta S., Poggialini F., Palleschi V., Construction and comparison of 3D multi-source multi-band models for cultural heritage applications, *Journal of Cultural Heritage* (2018) **34** 261-267
- Tonazzini A., Salerno E., Abdel-Salam Z.A., Harith M.A., Marras L., Botto A., Campanella B., Legnaioli S., Pagnotta S., Poggialini F., Palleschi V., Analytical and mathematical methods for revealing hidden details in ancient manuscripts and paintings: A review, *Journal of Advanced Research* (2019) **Article In Press**
- Botto A., Campanella B., Legnaioli S., Lezzerini M., Lorenzetti G., Pagnotta S., Poggialini F., Palleschi V., Applications of laser-induced breakdown spectroscopy in cultural heritage and archaeology: A critical review, *Journal of Analytical Atomic Spectrometry* (2019) **34** 81-103

- Angeli L., Brunetti A., Legnaioli S., Fabbri C., Campanella B., Lorenzetti G., Pagnotta S., Poggialini F., Palleschi V., Radi G., Analysis of the middle Neolithic trichrome pottery: Characterization of the decoration using X-Ray fluorescence and Raman spectroscopy, *Journal of Archaeological Science: Reports* (2019) **24** 192-197

Attachments

Certifications are available where necessary and/or upon request.

Date

Signature

01/04/19

A handwritten signature in black ink, appearing to read "Francesco D'Amico", written over a horizontal dashed line.

I hereby authorize the treatment of my personal data according to the current italian directives on Privacy policies (Law No. 196, 30 June 2003).

Date

Signature

01/04/19

A handwritten signature in black ink, appearing to read "Francesco D'Amico", written over a horizontal dashed line.