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Decreto Rettore Università di Roma “La Sapienza” n 2267 del 09.08.2021

SUSY PIOVESANA Curriculum Vitae

Place: Rome

Date: 23/09/2021

Part I – General Information

Full Name	Susy PIOVESANA
Spoken Languages	Italian, English
Scopus Author ID	36170963500
ORCID	https://orcid.org/0000-0001-7134-7421

Part II – Education

Type	Year	Institution	Notes (Degree, Experience,...)
PhD in Chemical Sciences	2014	Università degli Studi di Roma “La Sapienza”, Department of Chemistry	Thesis title: “ <i>Proteomic Characterization of Biomedically Interesting Particles by nanoHPLC and High Resolution Mass Spectrometry</i> ”; Thesis supervisor: Prof. Aldo Laganà
Visiting PhD student	2013-2014	Utrecht University, Netherlands Proteomics Centre	Six months in the Biomolecular Mass Spectrometry and Proteomics Center of Prof. Albert Heck. Project title: <i>Development of molecular imprinted polymers selective for the enrichment of sulfopeptides in biological samples</i> . Supervisor: Prof. Maarten Altelaar
University graduation, Master’s Degree	2010	Università degli Studi di Roma “La Sapienza”, Department of Chemistry	Master’s Degree in Chemistry, final mark 110/110, thesis title <i>Cascade Organocatalytic Additions</i>
University graduation, Bachelor of Science	2007	Università degli Studi di Roma “La Sapienza”, Department of Chemistry	Bachelor of Science in Chemistry, final mark 110/110 cum laude

Part III – Academic Appointments

Start	End	Institution	Position
01/04/2021	31/03/2022	Università degli Studi di Roma “La Sapienza”, Department of Chemistry	Postdoctoral researcher (assegnista di ricerca di categoria B-tipologia II), research project title: “ <i>Approccio analitico untargeted, mediante spettrometria di massa ad alta risoluzione per studiare metaboliti e composti nuovi/inaspettati in Antartide</i> ” (academic discipline CHIM/01).
01/03/2020	28/02/2021	Università degli Studi di Roma “La Sapienza”, Department of Chemistry	Postdoctoral researcher (assegnista di ricerca di categoria B-tipologia II), research project title: “ <i>Caratterizzazione del profilo molecolare di campioni di neve mediante tecnologie omiche</i> ” (academic discipline CHIM/01).
01/03/2017	29/02/2020	Università degli Studi di Roma “La Sapienza”, Department of Chemistry	Research fellow (RTD-A) in Analytical Chemistry and Separation Sciences, Omics Sciences, and Proteomics (academic recruitment field 03/A1 (Analytical Chemistry) - academic discipline CHIM/01 (Analytical Chemistry))
01/11/2016	28/02/2017	Università degli Studi di Roma “La Sapienza”, Department of Chemistry	Three-month fellowship, research project title: “ <i>New materials for enrichment of phosphopeptides in biological matrices</i> ”.
01/11/2014	31/10/2016	Università degli Studi di Roma “La Sapienza”, Department of Chemistry	Postdoctoral researcher (assegnista di ricerca di categoria B), research project title: “ <i>Assessment of quality and safety of seafoods by omics sciences</i> ” (academic discipline CHIM/01).

Part IV – Teaching Experience

Year	Institution	Lecture/Course
2019-2020	Università degli Studi di Roma “La Sapienza”	Analytical Chemistry I with Laboratory [1020315]/30443 Bachelor’s Degree course in Chemistry (L-27), 6 CFU of 9 CFU, for laboratory activity
2018-2019	Università degli Studi di Roma “La Sapienza”	Analytical Chemistry I with Laboratory [1020315]/30443 Bachelor’s Degree Course in Chemistry (L-27), 9 CFU, 3 CFU for lecture and 6 CFU for laboratory activity

2017-2018	Università degli Studi di Roma "La Sapienza"	Analytical Chemistry I with Laboratory [1020315]/30443 Bachelor's Degree course in Chemistry (L-27), 6 CFU of 9 CFU, divided into 3 CFU for lecture and 3 CFU for laboratory activity
2015-2017	Università degli Studi di Roma "La Sapienza"	General and Inorganic Chemistry (module in Chemical and Epidemiological Sciences [1036290])/Bachelor's Degree Course in Environment and Workplace Prevention Techniques (L/SNT4) - Sant'Andrea Hospital (2 CFU)

Part V - Society Memberships, Awards and National Scientific Qualifications

Part V_A - Society Memberships

Year	Title
2012-	Membership to the Italian Chemical Society (Analytical Chemistry Division and Gruppo Interdivisionale di Scienza delle Separazioni); card number 18726

Part V_B - Awards

Year	Title
2019	Medal entitled "Gruppo Interdivisionale di Scienza delle Separazioni – Premio Giovane Ricercatore" awarded during the <i>Incontri di Scienza delle Separazioni</i> , Naples, 28-29 November 2019
2017	"Premio Giovane Ricercatore Chimica Analitica" awarded during the <i>XXVI Congresso Nazionale della Società Chimica Italiana</i> , Paestum (SA), 10-14 September 2017
2017	"Premio Giovane Ricercatore Bioanalitica" awarded during the <i>Giornate di Chimica Analitica in memoria del Prof. Francesco Dondi</i> , Ferrara, 10-11 July 2017
2016	Best poster award at <i>Settimo Convegno Giovani Le frontiere della chimica nel nuovo millennio</i> , Rome, 14-15 June 2016
2016	"Genzo Shimadzu Oral Award for the best oral communication" at <i>40th International Symposium on Capillary Chromatography (ISCC) and 13th GCxGC Symposium (GCxGC)</i> , Riva del Garda, 29 May-03 June 2016
2012	Best oral award at <i>Quinto Convegno Giovani La Chimica per lo Sviluppo</i> , Rome, 12-13 June 2012

Part V_C – National Scientific Qualifications

Year	Title
2018	National scientific qualification to function as associate professor in Italian Universities

Part VI - Funding Information

Part VI_A - Grants as PI-principal investigator

Year	Title	Program	Grant value, notes
2020	Development of a Sample Preparation Workflow for Sulfopeptides, from Enrichment to Identification	Initial research project – Type 2. Funder: Università degli Studi di Roma “La Sapienza”	3000 12 months
2017	Funding for Basic Activities Related to Research to finance basic activities undertaken by full-time researchers and associate professors working for Italian state universities	FFABR – MIUR	€ 3000 18 months
2017	Development of new materials for the enrichment of phosphopeptides in complex real matrices within the framework of shotgun phosphoproteomics	Medium research project. Funder: Università degli Studi di Roma “La Sapienza”	€ 11000 (+ fellowship € 23750) 36 months
2016	Development of innovative carbon composite materials for phosphopeptide enrichment	Initial research project. Funder: Università degli Studi di Roma “La Sapienza”	€ 3435 12 months
2015	Development of new separation technologies based on polydopamine coating	Initial research project. Funder: Università degli Studi di Roma “La Sapienza”	€ 3000 12 months
2013	Peptidomic study of naturally occurring peptides in serum	Initial research project. Funder: Università degli Studi di Roma “La Sapienza”	€ 2000 12 months
2012	Shotgun proteomics study of platelet microparticles	Initial research project. Funder: Università degli Studi di Roma “La Sapienza”	€ 2000 12 months

Part VI_B – Participation to Grants

Year	Title	Program	Grant total value, notes
2019	Untargeted analytical approach by high resolution mass spectrometry to study metabolites and new/unexpected compounds in Antarctica	Large research project. Funder: Università degli Studi di Roma “La Sapienza”	€ 40000 (+ fellowship € 23750) PI: Chiara Cavaliere 36 months
2018	Development of innovative and high performant analytical methods based on metabolomics and lipidomics for identification of new biomarkers in gut microbiota	Large research project. Funder: Università degli Studi di Roma “La Sapienza”	€ 31000 PI: Anna Laura Capriotti 36 months

2017	Valorization of Italian OLive products through INnovative analytical tools- VIOLIN	AGER	€ 1.008.000 PI: Luigi Mondello 36 + 12 months
2015	Identification and characterization of new bioactive peptides in milk and dairy products	Large research project. Funder: Università degli Studi di Roma “La Sapienza”	€ 30000 (+ fellowship € 23450) PI: Aldo Laganà 36 months
2014	Identification of bioactive food peptides by “omic” analytical methods	Large research project. Funder: Università degli Studi di Roma “La Sapienza”	€ 26.550 (+ fellowship € 23450) PI: Anna Laura Capriotti 18 months
2012	Valutazione della qualità e della sicurezza degli alimenti ittici Mediterranei tramite scienze “omiche”	Projects of national interest (Progetti di Ricerca di Interesse Nazionale - PRIN)	€ 93624 PI: Aldo Laganà 36 months

Part VII – Research Activities

Keywords

Shotgun proteomics
Protein post-translational modifications
Peptidomics
Bioactive peptides
Metaproteomics

Brief Description

The studies are based on shotgun proteomics: peptide samples (obtained by tryptic digestion or enriched native peptides) are separated by reversed phase nanoHPLC coupled to high resolution Orbitrap mass spectrometry with bioinformatic analysis by sequence database search (Mascot, Proteome Discoverer, MaxQuant software) or de-novo peptide identification (pNovo). Multidimensional off-line approaches were used for fractionation of complex peptide samples. The main topics are the following: characterization or the differential analysis, by label-free quantitation, of proteins in complex matrices (biological fluids, cells, protein corona on vectors for gene delivery, model and non-model vegetables, food, environmental samples); development of new analytical workflows, including new materials, for the enrichment of post-translational modifications of proteins in biological fluids; development of analytical methods for the investigation of middle sized bioactive peptides (either native or obtained by hydrolysis) in food or waste materials.

Collaborations active in these research topics:

- 1) protein corona characterization for nanomedicine delivery system development: Prof. Giulio Caracciolo and Prof. Daniela Pozzi, Department of Molecular Medicine, Università degli Studi di Roma “La Sapienza” (7 papers);
- 2) new materials for phosphopeptide enrichment: Prof. Michele Laus, Department of Science and Technological Innovation, Università degli Studi del Piemonte Orientale, Alessandria (5 papers)

Short chain peptidomics
Bioactive peptides

Development of analytical methods specific for short chain peptides, 2-4 amino acid long, which cannot be identified by shotgun proteomics approaches. Sample preparation specific for enrichment of short peptides

Biomarker investigation	<p>were developed, as these analytes are very low abundance and are usually poorly investigated by conventional metabolomic studies as well. Along with sample preparation, chromatographic separation by UHPLC and detection by high resolution Orbitrap mass spectrometry of short peptides was also investigated, due to the wide range of polarity of these analytes, poor ionization efficiency and low abundance. Finally, sequence identification was considered, with the development of suspect screening approaches and workflows for spectra data mining and analyte confident identification, by using bioinformatic software (Compound Discoverer, MzMine and MMass). The main topics include the characterization of short peptides in food, as bioactive peptides, and biological fluids, as possible biomarkers of disease.</p>

Lipidomics	<p>Development of enrichment sample preparation protocols for the investigation of low abundance polar and neutral lipids in vegetables and biofluids. Samples are analysed by UHPLC coupled to high resolution Orbitrap mass spectrometry and bioinformatics (Lipostar software, Compound Discoverer).</p>

Metabolomics	<p>Development of analytical methods for the untargeted investigation of specific metabolite classes in vegetable samples. The main aim of these studies is the optimization of spectra acquisition methods and data mining of the acquired raw files, in order to improve the coverage of investigated metabolites and the identification confidence. The methods include separation by UHPLC coupled to high resolution Orbitrap mass spectrometry. Data are then mined by bioinformatics (Compound Discoverer) using lists, manually created, containing metabolites potentially present in the sample (either known metabolites or created by combination of core structures and functional groups) and belonging to an analyte specific class.</p> <p>Collaborations active in this research topic, for the characterization of hemp phytochemicals, with Prof. Giuseppe Cannazza and Dr. Cinzia Citti, Department of Life Sciences, University of Modena and Reggio Emilia, Modena (6 papers);</p>
Untargeted analysis	
Phytochemicals	

Targeted analysis	<p>Development and validation of analytical methods, including sample preparation protocols and preparation of new sorbent materials, for the investigation of small molecules in food and environmental samples by targeted analysis based on UHPLC coupled to triple quadrupole multiple reaction monitoring. The main targets are emerging contaminants, bioactive compounds, toxins in food and environmental samples (water, sediments).</p>
Quantitative analysis	
Food analysis	
Environmental analysis	

Part VIII – Summary of Scientific Achievements (data at 23/09/2021)

Product type	Number	Data Base	Start	End
Research articles [international]	77	Scopus	2010	2021

Review articles [international]	14	Scopus	2011	2021
Conference papers	2	Scopus	2014	2018
Editorial	1	Scopus	2019	2019
Book chapter	1	Scopus	2021	2021

Scientific Achievements for the Period 2010-2021

Total Impact factor†	425.014
Average Impact factor for publication†	4.474
Total Citations (Scopus)	2119
Total Citations (Scopus) without self citations	1809
Average Citations per Product (Scopus)	22.3
Hirsch (H) index (Scopus)	27
Normalized H index*	2.45
Hirsch (H) index (Scopus) without self citations	23

† calculated using impact factors reported by the Journal Citation Reports for the year of publication

*H index divided by the academic seniority.

Scientific Achievements for the Last 10 Years (2011-2021)

Total Number of Publications (Scopus)	94
Total Impact factor†	419.227
Average Impact factor for publication†	4.460
Total Citations (Scopus)	2099
Total Citations (Scopus) without self citations	1789
Average Citations per Product (Scopus)	22.3
Hirsch (H) index (Scopus)	27
Hirsch (H) index (Scopus) without self citations	23

† calculated using impact factors reported by the Journal Citation Reports for the year of publication

Part IX– Selected Publications

List of the publications selected for the evaluation. For each publication are reported authors, title, journal, year of publication, volume:pages (or article number), DOI number, journal impact factor (IF, for the year of publication or 2020 for articles published in 2021) and citations. * **indicates corresponding author**.

PUBLICATION 1.

A.L. Capriotti, G. Cannazza, M. Catani, C. Cavaliere, A. Cavazzini, A. Cerrato, C. Citti, S. Felletti, C.M. Montone, **S. Piovesana***, A. Laganà.

Recent applications of mass spectrometry for the characterization of cannabis and hemp phytocannabinoids: from targeted to untargeted analysis.

Journal of Chromatography A, 2021, 1655:462492.

DOI: 10.1016/j.chroma.2021.462492.

IF (2020) = 4.759; citations = 0;

PUBLICATION 2.

A. Cerrato, S.E. Aita, C. Cavaliere, A. Laganà, C.M. Montone, **S. Piovesana***, R. Zenezini Chiozzi, A.L. Capriotti.

Comprehensive identification of native medium-sized and short bioactive peptides in sea bass muscle.

Food Chemistry, 2021, 343:128443.

DOI: 10.1016/j.foodchem.2020.128443.

IF (2020) = 7.514; citations = 2;

PUBLICATION 3.

C.M. Montone, S.E. Aita, G. Cannazza, C. Cavaliere, A. Cerrato, C. Citti, L. Mondello, **S. Piovesana***, A. Laganà, A.L. Capriotti.

Targeted and untargeted characterization of underivatized policosanols in hemp inflorescence by liquid chromatography-high resolution mass spectrometry.

Talanta, 2021, 235:122778.

DOI: 10.1016/j.talanta.2021.122778.

IF (2020) = 6.057; citations = 0;

PUBLICATION 4.

S. Piovesana, S.E. Aita, G. Cannazza, A.L. Capriotti, C. Cavaliere, A. Cerrato, P. Guarnaccia, C.M. Montone, A. Laganà.

In-depth cannabis fatty acid profiling by ultra-high performance liquid chromatography coupled to high resolution mass spectrometry.

Talanta, 2021, 228:122249.

DOI: 10.1016/j.talanta.2021.122249.

IF (2020) = 6.057; citations = 1;

PUBLICATION 5.

A.L. Capriotti, A. Cerrato, A. Laganà, C.M. Montone, **S. Piovesana***, R. Zenezini Chiozzi, C. Cavaliere.

Development of a sample-preparation workflow for sulfopeptide enrichment: from target analysis to challenges in shotgun sulfoproteomics.

Analytical Chemistry, 2020, 92:7964-7971.

DOI: 10.1021/acs.analchem.0c01342.

IF (year of publication) = 6.986; citations = 5;

PUBLICATION 6.

S. Piovesana, C. Cavaliere, A. Cerrato, C.M. Montone, A. Laganà, A.L. Capriotti.

Developments and pitfalls in the characterization of phenolic compounds in food: from targeted analysis to metabolomics-based approaches.

TrAC-Trends in Analytical Chemistry, 2020, 133:116083.

DOI: 10.1016/j.trac.2020.116083.

IF (year of publication) = 12.296; citations = 3;

PUBLICATION 7.

S. Piovesana, A. Cerrato, M. Antonelli, B. Benedetti, A.L. Capriotti, C. Cavaliere, C.M. Montone, A. Laganà.

A clean-up strategy for identification of circulating endogenous short peptides in human plasma by zwitterionic hydrophilic liquid chromatography and untargeted peptidomics identification.

Journal of Chromatography A, 2020, 1613:460699.

DOI: 10.1016/j.chroma.2019.460699.

IF (year of publication) = 4.759; citations = 4;

PUBLICATION 8.

A.L. Capriotti, C. Cavaliere, **S. Piovesana***.

Liposome protein corona characterization as a new approach in nanomedicine.

Analytical and Bioanalytical Chemistry, 2019, 411:4313-4326.

DOI: 10.1007/s00216-019-01656-x.

IF (year of publication) = 3.637; citations = 14;

PUBLICATION 9.

S. Piovesana, A.L. Capriotti, A. Cerrato, C. Crescenzi, G. La Barbera, A. Laganà, C.M. Montone, C. Cavaliere.

Graphitized carbon black enrichment and UHPLC-MS/MS allow to meet the challenge of small chain peptidomics in urine.

Analytical Chemistry, 2019, 91:11474-11481.

DOI: 10.1021/acs.analchem.9b03034.

IF (year of publication) = 6.785; citations = 9;

PUBLICATION 10.

S. Piovesana, C.M. Montone, C. Cavaliere, C. Crescenzi, G. La Barbera, A. Laganà, A.L. Capriotti.

Sensitive untargeted identification of short hydrophilic peptides by high performance liquid chromatography on porous graphitic carbon coupled to high resolution mass spectrometry.

Journal of Chromatography A, 2019, 1590:73-79.

DOI: 10.1016/j.chroma.2018.12.066.

IF (year of publication) = 4.049; citations = 12;

PUBLICATION 11.

A.L. Capriotti, C. Cavaliere, F. Ferraris, V. Gianotti, M. Laus, **S. Piovesana***, K. Sparnacci, R. Zenezini Chiozzi, A. Laganà.

New Ti-IMAC magnetic polymeric nanoparticles for phosphopeptide enrichment from complex real samples.

Talanta, 2018, 178:274-281.

DOI: 10.1016/j.talanta.2017.09.010.

IF (year of publication) = 4.916; citations = 30;

PUBLICATION 12.

A.L. Capriotti, C.M. Montone, M. Antonelli, C. Cavaliere, F. Gasparrini, G. La Barbera, **S. Piovesana***, A. Laganà.

Simultaneous preconcentration, identification, and quantitation of selenoamino acids in oils by enantioselective high performance liquid chromatography and mass spectrometry.

Analytical Chemistry, 2018, 90:8326-8330. DOI: 10.1021/acs.analchem.8b02089.

IF (year of publication) = 6.350; citations = 6;

PUBLICATION 13.

G. La Barbera, M. Antonelli, C. Cavaliere, G. Cruciani, L. Goracci, C.M. Montone, **S. Piovesana***, A. Laganà, A.L. Capriotti.

Delving into the polar lipidome by optimized chromatographic separation, high-resolution mass spectrometry, and comprehensive identification with Lipostar: microalgae as case study.

Analytical Chemistry, 2018, 90:12230–12238.

DOI: 10.1021/acs.analchem.8b03482.

IF (year of publication) = 6.350; citations = 12;

PUBLICATION 14.

G. La Barbera, A.L. Capriotti, C. Cavaliere, F. Ferraris, M. Laus, **S. Piovesana***, K. Sparnacci, A. Laganà.

Development of an enrichment method for endogenous phosphopeptide characterization in human serum.

Analytical and Bioanalytical Chemistry, 2018, 410:1177-1185.

DOI: 10.1007/s00216-017-0822-8.

IF (year of publication) = 3.286; citations = 18;

PUBLICATION 15.

G. La Barbera, A.L. Capriotti, C. Cavaliere, F. Ferraris, C.M. Montone, **S. Piovesana***, R. Zenezini Chiozzi, A. Laganà.

Saliva as a source of new phosphopeptide biomarkers: development of a comprehensive analytical method based on shotgun peptidomics.

Talanta, 2018, 183:245-249.

DOI: 10.1016/j.talanta.2018.02.085.

IF (year of publication) = 4.916; citations = 12;

PUBLICATION 16.

S. Piovesana, A.L. Capriotti, C. Cavaliere, G. La Barbera, R. Samperi, R. Zenezini Chiozzi, A. Laganà.

A new carbon-based magnetic material for the dispersive solid phase extraction of UV filters from water samples before liquid chromatography-tandem mass spectrometry analysis.

Analytical and Bioanalytical Chemistry, 2017, 409:4181-4194.

DOI: 10.1007/s00216-017-0368-9.

IF (year of publication) = 3.307; citations = 20;

PUBLICATION 17.

S. Piovesana, A.L. Capriotti, G. Caruso, C. Cavaliere, G. La Barbera, R. Zenezini Chiozzi, A. Laganà.

Labeling and label free shotgun proteomics approaches to characterize muscle tissue from farmed and wild gilthead sea bream (*Sparus aurata*).

Journal of Chromatography A, 2016, 1428:193-201.

DOI: 10.1016/j.chroma.2015.07.049.

IF (year of publication) = 3.981; citations = 32;

PUBLICATION 18.

S. Piovesana, A.L. Capriotti C. Cavaliere, F. Ferraris, D. Iglesias, S. Marchesan, A. Laganà.

New magnetic graphitized carbon black TiO₂ composite for phosphopeptide selective enrichment in shotgun phosphoproteomics.

Analytical Chemistry, 2016, 88:12043-12050.

DOI: 10.1021/acs.analchem.6b02345.

IF (year of publication) = 6.320; citations = 42;

PUBLICATION 19.

S. Piovesana, A.L. Capriotti, C. Cavaliere, F. Ferraris, R. Samperi, S. Ventura, A. Laganà.

Phosphopeptide enrichment: development of magnetic solid phase extraction method based on polydopamine coating and Ti⁴⁺-IMAC.

Analytica Chimica Acta, 2016, 909:67-74.

DOI: 10.1016/j.aca.2016.01.008.

IF (year of publication) = 4.950; citations = 31;

PUBLICATION 20.

S. Piovesana, A.L. Capriotti, C. Cavaliere, G. La Barbera, R. Samperi, R. Zenezini Chiozzi, A. Laganà.

Peptidome characterization and bioactivity analysis of donkey milk.

Journal of Proteomics, 2015, 119:21-29.

DOI: 10.1016/j.jprot.2015.01.020.

IF (year of publication) = 3.867; citations = 43;

Part X – Activity in Journal Editorial Boards and Guest Editor

Year	Brief Description
July 2021-	Editorial Board of the international scientific journal <i>Frontiers in Analytical Science - Environmental Analysis</i> (specialty section) as a Review Editor.
2020	Guest editor of the Special Issue “Application of Nanomaterials/Nanotechnology in Analytical Chemistry” with guest editors Chiara Cavaliere and Susy Piovesana on <i>Applied Sciences</i> (IF 2020 = 2.679).
2020	Guest editor of the Special Issue “Advancements in Analytical Techniques for Proteomics” with guest editors Susy Piovesana, Carmela Maria Montone, and Andrea Cerrato on <i>Molecules</i> (IF 2020 = 4.411).
2020	Guest Editor of the Special Issue “Application of New Methods for the Determination of Contaminants in Food and Environmental Quality and Safety” with guest editors Chiara Cavaliere and Susy Piovesana on <i>Applied Sciences</i> (IF 2020 = 2.679).
October 2019-	Section Editorial Board of the international scientific journal <i>Molecules</i> for the Analytical Chemistry section (IF 2020 = 4.411).
2019	Guest editor of the Topical Collection “Recent Trends in Solid-Phase Extraction for Environmental, Food and Biological Sample Preparation” with guest editors Anna Laura Capriotti, Giorgia La Barbera, and Susy Piovesana (Editorial by A.L. Capriotti, G. La Barbera, S. Piovesana* on <i>Chromatographia</i> , 2019, 82:1119–1120. DOI: 10.1007/s10337-019-03762-5. (IF 2019 = 1.596).

Part XI – Patents

Italian patent request for Sapienza and Chromaleont – request number 102021000020228. “Metodo per l’ estrazione di policosanoli da canapa industriale e relativa miscela”. Inventors: Capriotti Anna Laura, Cavaliere Chiara, Cerrato Andrea, Laganà Aldo, Micalizzi Giuseppe, Mondello Carmela Maria, **Piovesana Susy**.

Part XII – Activity as Reviewer for Scientific Journals

Acta Biomaterialia (2019-)
Analytical and Bioanalytical Chemistry (2021-)
Analytica Chimica Acta (2020-)
Analyst (2019-)
Analytical Methods (2016-)
Biomolecules (2019-)
Cannabis and Cannabinoid Research (2021-)
Chinese Chemical Letters (2021-)
Current Organic Chemistry (2016-);
Data in Brief (2019-)

Expert Opinion on Drug Delivery (2016-)
Food Analytical Methods (2019-)
Food Chemistry (2018-)
Food Research International (2018-)
Foods (2019-)
International Journal of Molecular Sciences (2019-)
Journal of Chromatography A (2016-)
Journal of Food Composition and Analysis (2019-)
Journal of Food Science (2019-)
Journal of Proteomics (2016-);
Journal of the Science of Food and Agriculture (2016-);
Microchemical Journal (2019-)
Microchimica Acta (2019-)
Molecules (2019-)
Nanomedicine (2019-)
RSC Advances (2016-)
TrAC-Trends in Analytical Chemistry (2020-)
Separations (2019-)

Part XIII – Participation to Scientific Conferences

Susy Piovesana presented 36 posters at national and international conferences and delivered 16 oral communications.

Part XIII_A – Talks at International Conferences.

- [1] G. La Barbera, M. Antonelli, B. Benedetti, A. Cerrato, G. Cruciani, L. Goracci, C.M. Montone, **S. Piovesana**, A. Laganà. “Delving into the Polar Lipidome of Microalgae by Optimized Chromatographic Separation, High-Resolution Mass Spectrometry, and Comprehensive Identification with Lipostar” 48TH International Symposium on High-Performance Liquid Phase Separations and Related Techniques, Milan, 16-20 June 2019.
- [2] **S. Piovesana**, C. Cavaliere, F. Ferraris, G. La Barbera, R. Zenezini Chiozzi, A. Laganà “Development of new magnetic materials in shotgun phosphoproteomics” MYCS - Merck Young Chemists Symposium, Rimini, 25-27 October 2016. ISBN: 978-88-86208-92-5.
- [3] **S. Piovesana**, A.L. Capriotti, V. Mancinelli, V. Trionfera, R. Zenezini Chiozzi, A. Laganà “Phosphopeptide selective enrichment by new affinity chromatography magnetic phases based

on polydopamine and graphitized carbon black” 6th EuCheMS Chemistry Congress, Seville, 11-15 September 2016.

- [4] **S. Piovesana**, A.L. Capriotti, F. Ferraris, A. Laganà “New materials for magnetic solid phase extraction and enrichment of phosphorylated peptides” 40th ISCC Symposium, Riva del Garda, 29 May-3 June 2016.

Part XIII_B – Talks at National Conferences.

- [5] **S. Piovesana. Invited lecture** “New trends for the enrichment and liquid chromatography-mass spectrometry analysis of peptides with protein post-translational modifications”, XXVII Congresso Nazionale della Società Chimica Italiana “La chimica guida lo sviluppo sostenibile, 14-23 September 2021.
- [6] **S. Piovesana. Keynote lecture** “Challenges and New Developments in Shotgun Phosphoproteomics for Complex Real-World Samples” Incontri di Scienza delle Separazioni, Naples, 28-29 November 2019.
- [7] **S. Piovesana**, M. Antonelli, B. Benedetti, A. Cerrato, C.M. Montone, A. Laganà. “Unravelling the bioactivity potential of complex matrices: focusing on lipids and unusual amino acids in oils” XXVIII Congress of the Analytical Chemistry Division, Bari, 22-26 September 2019.
- [8] **S. Piovesana. Keynote lecture** “Separation and Enrichment of Peptides and Amino Acids: a Piece in the Puzzle of the Bioactivity of Protein Derivatives” XXVII Congresso della Divisione di Chimica Analitica, Bologna, 16-20 September 2018.
- [9] **S. Piovesana. Keynote lecture** “Cutting-edge developments in shotgun proteomics, peptidomics and shotgun phosphoproteomics in real matrices” XXVI Congresso Nazionale della Società Chimica Italiana, Paestum (SA), 10-14 September 2017.
- [10] **S. Piovesana. Keynote lecture** “Shotgun Phosphoproteomics of Complex Real Samples by New Magnetic Materials” Giornate di chimica analitica in memoria del Prof. Francesco Dondi Recenti sviluppi in Scienze delle Separazioni e Bioanalitica, Ferrara, 10-11 July 2017.
- [11] A.L. Capriotti, F. Ferraris, **S. Piovesana**, A. Laganà “Preparation of new composite materials for phosphopeptide enrichment in shotgun phosphoproteomics” XXVI Congresso della Divisione di Chimica Analitica, Giardini Naxos, 18-22 September 2016. ISBN: 978-88-86208-91-8.
- [12] A.L. Capriotti, **S. Piovesana**, R. Zenezini Chiozzi, A. Laganà “Development of new composite magnetic phases for phosphopeptides isolation in shotgun phosphoproteomics” Bioanalitica 2016, Bologna, 4 July 2016.

- [13] **S. Piovesana**, A.L. Capriotti, F. Ferraris, R. Samperi, A. Laganà “Post-translational modifications: development of new materials for the enrichment of phosphopeptides” XXV Congresso della Divisione di Chimica Analitica della Società Chimica Italiana, Trieste, 13 – 17 September 2015. ISBN: 978-88-907670-2-9.
- [14] C. Cavaliere, F. Ferraris, G. La Barbera, **S. Piovesana**, A. Puglisi, A. Laganà “Peptidomic and bioactivity study on the peptides isolated in commercial donkey milk” Bioanalitica 2015, Florence, 26 June 2015.
- [15] **S. Piovesana**, F. Ferraris, P. Foglia, G. La Barbera, R. Samperi, R. Zenezini Chiozzi, A. Laganà. “Studio dell’interfaccia nano-bio di liposomi mediante analisi proteomica shotgun” Incontri di Scienza delle Separazioni 2014, Rome, 12 December 2014.

Part XIII_C – Talks at Local Conferences.

- [16] A.L. Capriotti, C. Cavaliere, A. Laganà, **S. Piovesana**, R. Samperi “Proteome characterization of platelet microparticles by nanoHPLC/high resolution mass spectrometry” Quinto Convegno Giovani - La chimica per lo sviluppo. Rome, 12-13 June 2012, Roma: Edizioni Nuova Cultura, p. 35-36, ISBN/ISSN: 9788861348226, DOI: 10.448/8226-10.

Part XIV – Complete List of Research Articles and Review Articles Published on Scientific International Journals

* indicates corresponding author

- [1] A.L. Capriotti, G. Cannazza, M. Catani, C. Cavaliere, A. Cavazzini, A. Cerrato, C. Citti, S. Felletti, C.M. Montone, **S. Piovesana***, A. Laganà. Recent applications of mass spectrometry for the characterization of cannabis and hemp phytocannabinoids: from targeted to untargeted analysis. *Journal of Chromatography A*, 2021, 1655:462492. DOI: 10.1016/j.chroma.2021.462492. IF (2020) = 4.759;
- [2] C.M. Montone, S.E. Aita, G. Cannazza, C. Cavaliere, A. Cerrato, C. Citti, L. Mondello, **S. Piovesana***, A. Laganà, A.L. Capriotti. Targeted and untargeted characterization of underivatized policosanols in hemp inflorescence by liquid chromatography-high resolution mass spectrometry. *Talanta*, 2021, 235:122778. DOI: 10.1016/j.talanta.2021.122778. IF (2020) = 6.057;
- [3] C.M. Montone, S.E. Aita, M. Catani, C. Cavaliere, A. Cerrato, **S. Piovesana**, A. Laganà, A.L. Capriotti. Profiling and quantitative analysis of underivatized fatty acids in *Chlorella vulgaris*

- microalgae by liquid chromatography-high resolution mass spectrometry. *Journal of Separation Science*, 2021, 44:3041-3051. DOI: 10.1002/jssc.202100306. IF (2020) = 3.645;
- [4] L. Digiacomo, F. Giulimondi, A.L. Capriotti, **S. Piovesana**, C.M. Montone, R. Zenezini Chiozzi, A. Laganà, M. Mahmoudi, D. Pozzi, G. Caracciolo. Optimal centrifugal isolating of liposome-protein complexes from human plasma. *Nanoscale Advances*, 2021, 3:3824-3834. DOI: 10.1039/D1NA00211B. IF (2020) = 4.553;
- [5] C. Cavaliere, A.M.I. Montone, S.E. Aita, R. Capparelli, A. Cerrato, P. Cuomo, A. Laganà, C.M. Montone, **S. Piovesana**, A.L. Capriotti. Production and Characterization of Medium-Sized and Short Antioxidant Peptides from Soy Flour-Simulated Gastrointestinal Hydrolysate. *Antioxidants*, 2021, 10:734. DOI: 10.3390/antiox10050734. IF (2020) = 6.312;
- [6] S.E. Aita, A.L. Capriotti, C. Cavaliere, A. Cerrato, B. Giannelli Moneta C.M. Montone, **S. Piovesana**, A. Laganà. Andean Blueberry of the Genus *Disterigma*: A High-Resolution Mass Spectrometric Approach for the Comprehensive Characterization of Phenolic Compounds. *Separations*, 2021, 8:58. DOI: 10.3390/separations8050058. IF (2020) = 2.777;
- [7] A. Cerrato, C. Citti, G. Cannazza, A.L. Capriotti, C. Cavaliere, G. Grassi, F. Marini, C.M. Montone, R. Paris, **S. Piovesana**, A. Laganà. Phytocannabinomics: Untargeted metabolomics as a tool for cannabis chemovar differentiation. *Talanta*, 2021, 230:122313. DOI: 10.1016/j.talanta.2021.122313. IF (2020) = 6.057;
- [8] A. Cerrato, C. Bedia, A.L. Capriotti, C. Cavaliere, V. Gentile, M. Maggi, C.M. Montone, **S. Piovesana**, A. Sciarra, R. Tauler, A. Laganà. Untargeted metabolomics of prostate cancer zwitterionic and positively charged compounds in urine. *Analytica Chimica Acta*, 2021, 1158, 338381. DOI: 10.1016/j.aca.2021.338381. IF (2020) = 6.558;
- [9] **S. Piovesana**, S.E. Aita, G. Cannazza, A.L. Capriotti, C. Cavaliere, A. Cerrato, P. Guarnaccia, C.M. Montone, A. Laganà. In-depth cannabis fatty acid profiling by ultra-high performance liquid chromatography coupled to high resolution mass spectrometry. *Talanta*, 2021, 228:122249. DOI: 10.1016/j.talanta.2021.122249. IF (2020) = 6.057;
- [10] A.L. Capriotti, A. Cerrato, S.E. Aita, C.M. Montone, **S. Piovesana**, A. Laganà, C. Cavaliere. Degradation of the polar lipid and fatty acid molecular species in extra virgin olive oil during storage based on shotgun lipidomics. *Journal of Chromatography A*, 2021, 1639: 461881. DOI: 10.1016/j.chroma.2021.461881. IF (2020) = 4.759;
- [11] A.L. Capriotti, S.E. Aita, C. Cavaliere, A. Cerrato, C.M. Montone, **S. Piovesana**, A. Laganà. A rapid and innovative extraction and enrichment method for the metaproteomic characterization of dissolved organic matter in groundwater samples. *Journal of Separation Science*, 2021, 44:1620. DOI: 10.1002/jssc.202001025. IF (2020) = 3.645;

- [12] A. Cerrato, S.E. Aita, C. Cavaliere, A. Laganà, C.M. Montone, **S. Piovesana***, R. Zenezini Chiozzi, A.L. Capriotti. Comprehensive identification of native medium-sized and short bioactive peptides in sea bass muscle. *Food Chemistry*, 2021, 343:128443. DOI: 10.1016/j.foodchem.2020.128443. IF (2020) = 7.514;
- [13] **S. Piovesana**, C. Cavaliere, A. Cerrato, C.M. Montone, A. Laganà, A.L. Capriotti. Developments and pitfalls in the characterization of phenolic compounds in food: from targeted analysis to metabolomics-based approaches. *TrAC Trends in Analytical Chemistry*, 2020, 133:116083. DOI: 10.1016/j.trac.2020.116083. IF (year of publication) = 12.296;
- [14] A. Cerrato, A.L. Capriotti, F. Capuano, C. Cavaliere, A.M.I. Montone, C. Maria Montone, **S. Piovesana**, R. Zenezini Chiozzi, A. Laganà. Identification and antimicrobial activity of medium-sized and short peptides from yellowfin tuna (*Thunnus Albacares*) simulated gastrointestinal digestion. *Foods*, 2020, 9:1185. DOI: 10.3390/foods9091185. IF (year of publication) = 4.350;
- [15] A. Cerrato, S.E. Aita, A.L. Capriotti, C. Cavaliere, C.M. Montone, A. Laganà, **S. Piovesana**. A new opening for the tricky untargeted investigation of natural and modified short peptides. *Talanta*, 2020, 219:121262. DOI: 10.1016/j.talanta.2020.121262. IF (year of publication) = 6.057;
- [16] C.M. Montone, A. Cerrato, B. Botta, G. Cannazza, A.L. Capriotti, C. Cavaliere, C. Citti, F. Ghirga, **S. Piovesana**, A. Laganà. Improved identification of phytocannabinoids using a dedicated structure-based workflow. *Talanta*, 2020, 219:121310. DOI: 10.1016/j.talanta.2020.121310. IF (year of publication) = 6.057;
- [17] N.A. Cacciola, A. Cerrato, A.L. Capriotti, C. Cavaliere, M. Dapolito, C.M. Montone, **S. Piovesana**, G. Squillaci, G. Peluso, A. Laganà. Untargeted Characterization of Chestnut (*Castanea sativa Mill.*) Shell Polyphenol Extract: A Valued Bioresource for Prostate Cancer Cell Growth Inhibition. *Molecules*, 2020, 25:2730. DOI: 10.3390/molecules25122730. IF (year of publication) = 4.411;
- [18] A.L. Capriotti, A. Cerrato, A. Laganà, C.M. Montone, **S. Piovesana***, R. Zenezini Chiozzi, C. Cavaliere. Development of a Sample Preparation Workflow for Sulfopeptide Enrichment: from Target Analysis to Challenges in Shotgun Sulfopeptidomics. *Analytical Chemistry*, 2020, 92:7964-7971. DOI: 10.1021/acs.analchem.0c01342. IF (year of publication) = 6.986;
- [19] A.L. Capriotti, **S. Piovesana**, R. Zenezini Chiozzi, C.M. Montone, A.M. Bossi, A. Laganà. Does the protein corona take over the selectivity of molecularly imprinted nanoparticles? The biological challenges to recognition. *Journal of Proteomics*, 2020, 219:103736. DOI: 10.1016/j.jprot.2020.103736. IF (year of publication) = 4.044;

- [20] **S. Piovesana**, D. Iglesias, M. Melle-Franco, S. Kralj, C. Cavaliere, M. Melchionna, A. Laganà, A.L. Capriotti, S. Marchesan. Carbon nanostructure morphology templates nanocomposites for phosphoproteomics. *Nano Research*, 2020, 13:380-388. DOI 10.1007/s12274-020-2620-4. IF (year of publication) = 8.897;
- [21] **S. Piovesana**, A.L. Capriotti, C. Cavaliere, K. Sparnacci, V. Gianotti, M. Laus, D. Antonioli, A. Laganà. Magnetic molecularly imprinted multishell particles for zearalenone recognition. *Polymer*, 2020, 188:122102. DOI: 10.1016/j.polymer.2019.122102. IF (year of publication) = 4.430;
- [22] A. Cerrato, G. Cannazza, A.L. Capriotti, C. Citti, G. La Barbera, A. Laganà, C.M. Montone, **S. Piovesana**, C. Cavaliere. A new software-assisted analytical workflow based on high-resolution mass spectrometry for the systematic study of phenolic compounds in complex matrices. *Talanta*, 2020, 209:120573. DOI: 10.1016/j.talanta.2019.120573. IF (year of publication) = 6.057;
- [23] **S. Piovesana**, A. Cerrato, M. Antonelli, B. Benedetti, A.L. Capriotti, C. Cavaliere, C.M. Montone, A. Laganà. A clean-up strategy for identification of circulating endogenous short peptides in human plasma by zwitterionic hydrophilic liquid chromatography and untargeted peptidomics identification. *Journal of Chromatography A*, 2020, 1613:460699. DOI: 10.1016/j.chroma.2019.460699. IF (year of publication) = 4.759;
- [24] M. Antonelli, B. Benedetti, G. Cannazza, A. Cerrato, C. Citti, C.M. Montone, **S. Piovesana**, A. Laganà. New insights in hemp chemical composition: a comprehensive polar lipidome characterization by combining solid phase enrichment, high-resolution mass spectrometry, and cheminformatics. *Analytical and Bioanalytical Chemistry*, 2020, 412:413-423. DOI: 10.1007/s00216-019-02247-6. IF (year of publication) = 4.142;
- [25] G. La Barbera, A.L. Capriotti, G. Caracciolo, C. Cavaliere, A. Cerrato, C.M. Montone, **S. Piovesana**, D. Pozzi, E. Quagliarini, A. Laganà. A comprehensive analysis of liposomal biomolecular corona upon human plasma incubation: the evolution towards the lipid corona. *Talanta*, 2020, 209:120487. DOI: 10.1016/j.talanta.2019.120487. IF (year of publication) = 6.057;
- [26] M. Antonelli, B. Benedetti, C. Cavaliere, A. Cerrato, C.M. Montone, **S. Piovesana**, A. Laganà, A.L. Capriotti. Phospholipidome of extra virgin olive oil: development of a solid phase extraction protocol followed by liquid chromatography - high resolution mass spectrometry for its software-assisted identification. *Food Chemistry*, 2020, 310:125860. DOI: 10.1016/j.foodchem.2019.125860. IF (year of publication) = 7.514;

- [27] C.M. Montone, R. Zenenzini Chiozzi, N. Marchetti, A. Cerrato, M. Antonelli, A.L. Capriotti, C. Cavaliere, **S. Piovesana**, A. Laganà. Peptidomic approach for the identification of peptides with potential antioxidant and anti-hypertensive effects derived from asparagus by-products. *Molecules*, 2019, 24: E3627. DOI: 10.3390/molecules24193627. IF (year of publication) = 3.267;
- [28] A.L. Capriotti, M. Antonelli, D. Antonioli, C. Cavaliere, R. Chiarcos, V. Gianotti, **S. Piovesana***, K. Sparnacci, M. Laus, A. Laganà. Effect of shell structure of Ti-immobilized metal ion affinity chromatography core-shell magnetic particles for phosphopeptide enrichment. *Scientific Reports*, 2019, 9:15782. DOI: 10.1038/s41598-019-51995-z. IF (year of publication) = 3.998;
- [29] C. Cavaliere, M. Antonelli, A.L. Capriotti, G. La Barbera, C.M. Montone, **S. Piovesana**, A. Laganà. A triple quadrupole and a hybrid quadrupole Orbitrap mass spectrometer in Comparison for polyphenol quantitation. *Journal of Agricultural and Food Chemistry*, 2019, 67:4885-4896. DOI: 10.1021/acs.jafc.8b07163. IF (year of publication) = 4.192;
- [30] C. Cavaliere, M. Antonelli, A. Cerrato, G. La Barbera, A. Laganà, M. Laus, **S. Piovesana**, A. Laura Capriotti. A novel magnetic molecular imprinted polymer for selective extraction of zearalenone from cereal flours before liquid chromatography-tandem mass spectrometry determination. *Toxins*, 2019, 11:E493. DOI: 10.3390/toxins11090493. IF (year of publication) = 3.531;
- [31] **S. Piovesana**, A.L. Capriotti, A. Cerrato, C. Crescenzi, G. La Barbera, A. Laganà, C.M. Montone, C. Cavaliere. Graphitized carbon black enrichment and UHPLC-MS/MS allow to meet the challenge of small chain peptidomics in urine. *Analytical Chemistry*, 2019, 91:11474-11481. DOI: 10.1021/acs.analchem.9b03034. IF (year of publication) = 6.785;
- [32] M Antonelli, B. Benedetti, C. Cavaliere, A. Cerrato, G. La Barbera, C.M. Montone, **S. Piovesana**, A. Laganà. Enrichment procedure based on graphitized carbon black and liquid chromatography-high resolution mass spectrometry for elucidating sulfolipids composition of microalgae. *Talanta*, 2019, 205:120162. DOI: 10.1016/j.talanta.2019.120162. IF (year of publication) = 5.339;
- [33] **S. Piovesana**, A.L. Capriotti, P. Foglia, C.M. Montone, G. La Barbera, R. Zenezini Chiozzi, A. Laganà, C. Cavaliere. Development of an analytical method for the metaproteomic investigation of bioaerosol from work environments. *Proteomics*, 2019, 19:e1900152. DOI: 10.1002/pmic.201900152. IF (year of publication) = 3.254;

- [34] A.L. Capriotti, C. Cavaliere, G. La Barbera, C.M. Montone, **S. Piovesana***, A. Laganà. Recent applications of magnetic solid phase extraction for sample preparation. *Chromatographia*, 2019, 82:1251-1274. DOI: 10.1007/s10337-019-03721-0. IF (year of publication) = 1.596;
- [35] C.M. Montone, A.L. Capriotti, A. Cerrato, C. M. Antonelli, G. La Barbera, **S. Piovesana**, A. Laganà, C. Cavaliere. Identification of bioactive short peptides in cow milk by high-performance liquid chromatography on C18 and porous graphitic carbon coupled to high-resolution mass spectrometry. *Analytical and Bioanalytical Chemistry*, 2019, 411:3395-3404. DOI: 10.1007/s00216-019-01815-0. IF (year of publication) = 3.637;
- [36] C.M. Montone, M. Antonelli, A.L. Capriotti, C. Cavaliere, G. La Barbera, **S. Piovesana**, A. Laganà. Investigation of free and conjugated seleno-amino acids in wheat bran by hydrophilic interaction liquid chromatography with tandem mass spectrometry. *Journal of Separation Science*, 2019, 42:1938-1947. DOI: 10.1002/jssc.201900047. IF (year of publication) = 2.878;
- [37] A.L. Capriotti, C. Cavaliere, **S. Piovesana*** Liposome protein corona characterization as a new approach in nanomedicine. *Analytical and Bioanalytical Chemistry*, 2019, 411:4313-4326. DOI: 10.1007/s00216-019-01656-x. IF (year of publication) = 3.637;
- [38] **S. Piovesana**, C.M. Montone, C. Cavaliere, C. Crescenzi, G. La Barbera, A. Laganà, A.L. Capriotti. Sensitive untargeted identification of short hydrophilic peptides by high performance liquid chromatography on porous graphitic carbon coupled to high resolution mass spectrometry. *Journal of Chromatography A*, 2019, 1590:73-79. DOI: 10.1016/j.chroma.2018.12.066. IF (year of publication) = 4.049;
- [39] C. Caliceti, A.L. Capriotti, D. Calabria, F. Bonvicini, R. Zenezini Chiozzi, C.M. Montone, **S. Piovesana**, M. Zangheri, M. Mirasoli, P. Simoni, A. Laganà, A. Roda. Peptides from cauliflower by-products, obtained by an efficient, ecosustainable and semi-industrial method, exert protective effects on endothelial function. *Oxidative Medicine and Cellular Longevity*, 2019, 2019:1046504. DOI: 10.1155/2019/1046504. IF (year of publication) = 5.076;
- [40] **S. Piovesana**, C.M. Montone, M. Antonelli, C. Cavaliere, G. La Barbera, S. Canepari, R. Samperi, A. Laganà, A.L. Capriotti. Investigation of free seleno-amino acids in extra-virgin olive oil by mixed mode solid phase extraction cleanup and enantioselective hydrophilic interaction liquid chromatography-tandem mass spectrometry. *Food Chemistry*, 2019, 278:17-25. DOI: 10.1016/j.foodchem.2018.11.053. IF (year of publication) = 6.306;
- [41] C. Cavaliere, A.L. Capriotti, G. La Barbera, C.M. Montone, **S. Piovesana**, A. Laganà. Liquid chromatographic strategies for separation of bioactive compounds in food matrices. *Molecules* 2018, 23:3091. DOI: 10.3390/molecules23123091. IF (year of publication) = 3.060;

- [42] G. La Barbera, M. Antonelli, C. Cavaliere, G. Cruciani, L. Goracci, C.M. Montone, **S. Piovesana***, A. Laganà, A.L. Capriotti. Delving into the polar lipidome by optimized chromatographic separation, high resolution mass spectrometry and comprehensive identification with Lipostar: microalgae as case study. *Analytical Chemistry*, 2018, 90:12230–12238. DOI: 10.1021/acs.analchem.8b03482. IF (year of publication) = 6.350;
- [43] A.L. Capriotti, C.M. Montone, M. Antonelli, C. Cavaliere, F. Gasparrini, G. La Barbera, **S. Piovesana***, A. Laganà. Simultaneous preconcentration, identification, and quantitation of selenoamino acids in oils by enantioselective high performance liquid chromatography and mass spectrometry. *Analytical Chemistry*, 2018, 90:8326-8330. DOI: 10.1021/acs.analchem.8b02089. IF (year of publication) = 6.350;
- [44] C. Cavaliere, C.M. Montone, A.L. Capriotti, G. La Barbera, **S. Piovesana**, M. Rotatori, F. Valentino, A. Laganà. Extraction of polycyclic aromatic hydrocarbons from polyhydroxyalkanoates before gas chromatography/mass spectrometry analysis. *Talanta*, 2018, 188:671–675. DOI: 10.1016/j.talanta.2018.06.038. IF (year of publication) = 4.916;
- [45] G. La Barbera, A.L. Capriotti, C. Cavaliere, F. Ferraris, C.M. Montone, **S. Piovesana***, R. Zenezini Chiozzi, A. Laganà. Saliva as a source of new phosphopeptide biomarkers: development of a comprehensive analytical method based on shotgun peptidomics. *Talanta*, 2018, 183:245-249. DOI: 10.1016/j.talanta.2018.02.085. IF (year of publication) = 4.916;
- [46] C.M. Montone, A.L. Capriotti, C. Cavaliere G. La Barbera, **S. Piovesana**, R. Zenezini Chiozzi, A. Laganà. Characterization of antioxidant and angiotensin-converting enzyme inhibitory peptides derived from cauliflower by-products by multidimensional liquid chromatography and bioinformatics. *Journal of Functional Foods*, 2018, 44:40-47. DOI: 10.1016/j.jff.2018.02.022. IF (year of publication) = 3.197;
- [47] C.M. Montone, A.L. Capriotti, C. Cavaliere, G. La Barbera, **S. Piovesana**, R. Zenezini Chiozzi, A. Laganà. Peptidomic strategy for purification and identification of potential ACE-Inhibitory and antioxidant peptides in *Tetrademus obliquus* microalgae. *Analytical and Bioanalytical Chemistry*, 2018, 410:3573-3586. DOI: 10.1007/s00216-018-0925-x. IF (year of publication) = 3.286;
- [48] **S. Piovesana**, A.L. Capriotti, C. Cavaliere, G. La Barbera, C.M. Montone, R. Zenezini Chiozzi, A. Laganà. Recent trends and analytical challenges in plant bioactive peptide separation, identification and validation. *Analytical and Bioanalytical Chemistry*, 2018, 410:3425-3444. DOI: 10.1007/s00216-018-0852-x. IF (year of publication) = 3.286;
- [49] A.L. Capriotti, C. Cavaliere, G. La Barbera, C.M. Montone, **S. Piovesana**, R. Zenezini Chiozzi, A. Laganà, Chromatographic column evaluation for the untargeted profiling of glucosinolates

in cauliflower by means of ultra-high performance liquid chromatography coupled to high resolution mass spectrometry. *Talanta*, 2018, 179:792-802. DOI:

doi.org/10.1016/j.talanta.2017.12.019. IF (year of publication) = 4.916;

- [50] G. La Barbera, A.L. Capriotti, C. Cavaliere, F. Ferraris, M. Laus, **S. Piovesana***, K. Sparnacci, A. Laganà. Development of an enrichment method for endogenous phosphopeptide characterization in human serum. *Analytical and Bioanalytical Chemistry*, 2018, 410:1177-1185. DOI: 10.1007/s00216-017-0822-8. IF (year of publication) = 3.286;
- [51] A.L. Capriotti, C. Cavaliere, F. Ferraris, V. Gianotti, M. Laus, **S. Piovesana***, K. Sparnacci, R. Zenezini Chiozzi, A. Laganà. New Ti-IMAC magnetic polymeric nanoparticles for phosphopeptide enrichment from complex real samples. *Talanta*, 2018, 178:274-281. DOI: 10.1016/j.talanta.2017.09.010. IF (year of publication) = 4.916;
- [52] R. Zenezini Chiozzi, A.L. Capriotti, C. Cavaliere, G. La Barbera, C.M. Montone, **S. Piovesana**, A. Laganà. Label free shotgun proteomics approach to characterize muscle tissue from farmed and wild European sea bass (*Dicentrarchus labrax*). *Food Analytical Methods*, 2018, 292-301. DOI: 10.1007/s12161-017-0999-7. IF (year of publication) = 2.413;
- [53] G. La Barbera, A.L. Capriotti, C. Cavaliere, C.M. Montone, **S. Piovesana***, R. Samperi, R. Zenezini Chiozzi, A. Laganà. Liquid chromatography-high resolution mass spectrometry for the analysis of phytochemicals in vegetal-derived food and beverages. *Food Research International*, 2017, 100:28-52. DOI: 10.1016/j.foodres.2017.07.080. IF (year of publication) = 3.520;
- [54] G. La Barbera, A.L. Capriotti, E. Micheli, **S. Piovesana**, M.M. Calabretta, R. Zenezini Chiozzi, A. Roda, A. Laganà. Proteomic analysis and bioluminescent reporter gene assays to investigate effects of simulated microgravity on Caco-2 cells, *Proteomics*, 2017, 17:1700081. DOI: 10.1002/pmic.201700081. IF (year of publication) = 3.532;
- [55] **S. Piovesana**, A.L. Capriotti, C. Cavaliere, G. La Barbera, R. Samperi, R. Zenezini Chiozzi, A. Laganà. A new carbon-based magnetic material for the dispersive solid phase extraction of UV filters from water samples before liquid chromatography-tandem mass spectrometry analysis. *Analytical and Bioanalytical Chemistry*, 2017, 409:4181-4194. DOI: 10.1007/s00216-017-0368-9. IF (year of publication) = 3.307;
- [56] R. Zenezini Chiozzi, A.L. Capriotti, C. Cavaliere, F. Ferraris, G. La Barbera, **S. Piovesana**, A. Laganà. Evaluation of column length and particle size effect on the untargeted profiling of a phytochemical mixture by means of ultra-high performance liquid chromatography coupled to high resolution mass spectrometry. *Journal of Separation Science*, 2017, 40:2541-2557. DOI:10.1002/jssc.201700135. IF (year of publication) = 2.415;

- [57] A.L. Capriotti, C. Cavaliere, A. Cavazzini, F. Gasparrini, G. Pierri, **S. Piovesana**, A. Laganà. A multidimensional liquid chromatography-tandem mass spectrometry platform to improve protein identification in high-throughput shotgun proteomics. *Journal of Chromatography A*, 2017, 1498:176-182. DOI: 10.1016/j.chroma.2017.03.032. IF (year of publication) = 3.716;
- [58] G. La Barbera, A.L. Capriotti, C. Cavaliere, **S. Piovesana**, R. Samperi, R. Zenezini Chiozzi, A. Laganà. Comprehensive polyphenol profiling of a strawberry extract (*Fragaria × ananassa*) by ultra-high-performance liquid chromatography coupled with high-resolution mass spectrometry. *Analytical and Bioanalytical Chemistry*, 2017, 409:2127-2142. DOI: 10.1007/s00216-016-0159-8. IF (year of publication) = 3.307;
- [59] **S. Piovesana**, A.L. Capriotti C. Cavaliere, F. Ferraris, D. Iglesias, S. Marchesan, A. Laganà. New magnetic graphitized carbon black TiO₂ composite for phosphopeptide selective enrichment in shotgun phosphoproteomics. *Analytical Chemistry*. 2016, 88:12043-12050 DOI: 10.1021/acs.analchem.6b02345. IF (year of publication) = 6.320;
- [60] **S. Piovesana**, A.L. Capriotti. Magnetic materials for the selective analysis of peptide and protein biomarkers. *Current Medicinal Chemistry*, 2017, 24: 438-453. DOI: 10.2174/0929867323666160805121905. IF (year of publication) = 3.249;
- [61] R. Zenezini Chiozzi, A.L. Capriotti, C. Cavaliere, G. La Barbera, **S. Piovesana**, A. Laganà. Identification of three novel angiotensin converting enzyme inhibitory peptides derived from cauliflower by-products by multidimensional liquid chromatography and bioinformatics. *Journal of Functional Foods*, 2016, 27:262-273. DOI: 10.1016/j.jff.2016.09.010. IF (year of publication) = 3.144;
- [62] **S. Piovesana***, A.L. Capriotti, V. Colapicchioni, F. Ferraris, G. La Barbera, S. Ventura. Membrane proteome functional characterization of breast cancer initiating cells subjected to bone morphogenetic protein signaling inhibition by dorsomorphin. *Medicinal Chemistry Research*, 2016, 25:1971-1979. DOI: 10.1007/s00044-016-1657-0. IF (year of publication) = 1.277;
- [63] R. Zenezini Chiozzi, A.L. Capriotti, C. Cavaliere, G. La Barbera, **S. Piovesana**, R. Samperi, A. Laganà. Purification and identification of endogenous antioxidant and ACE-inhibitory peptides from donkey milk by multidimensional liquid chromatography and nanoHPLC-high resolution mass spectrometry. *Analytical and Bioanalytical Chemistry*, 2016, 408:5657-5666. DOI: 10.1007/s00216-016-9672-z. IF (year of publication) = 3.431;
- [64] A.L. Capriotti, C. Cavaliere, G. La Barbera, **S. Piovesana**, R. Samperi, R. Zenezini Chiozzi, A. Laganà. Polydopamine coated magnetic nanoparticles for isolation and enrichment of estrogenic compounds from water samples followed by liquid chromatography-tandem mass

- spectrometry determination. *Analytical and Bioanalytical Chemistry*, 2016, 408:4011-4020. DOI: 10.1007/s00216-016-9489-9. IF (year of publication) = 3.431;
- [65] **S. Piovesana**, A.L. Capriotti, C. Cavaliere, F. Ferraris, R. Samperi, S. Ventura, A. Laganà. Phosphopeptide enrichment: development of magnetic solid phase extraction method based on polydopamine coating and Ti⁴⁺-IMAC. *Analytica Chimica Acta*, 2016, 909:67-74. DOI: 10.1016/j.aca.2016.01.008. IF (year of publication) = 4.950;
- [66] A.L. Capriotti, C. Cavaliere, **S. Piovesana**, R. Samperi, A. Laganà. Recent trends in the analysis of bioactive peptides in milk and dairy products. *Analytical and Bioanalytical Chemistry*, 2016, 408:2677-2685. DOI: 10.1007/s00216-016-9303-8. IF (year of publication) = 3.431;
- [67] **S. Piovesana**, A.L. Capriotti, G. Caruso, C. Cavaliere, G. La Barbera, R. Zenezini Chiozzi, A. Laganà. Labeling and label free shotgun proteomics approaches to characterize muscle tissue from farmed and wild gilthead sea bream (*Sparus aurata*). *Journal of Chromatography A*, 2016, 1428:193-201. DOI:10.1016/j.chroma.2015.07.049. IF (year of publication) = 3.981;
- [68] A.L. Capriotti, C. Cavaliere, **S. Piovesana**, S. Stampachiachiere, R. Samperi, S. Ventura, A. Laganà. Simultaneous determination of naturally occurring estrogens and mycoestrogens in milk by ultrahigh-performance liquid chromatography–tandem mass spectrometry analysis. *Journal of Agricultural and Food Chemistry*, 2015, 63:8940-8946. DOI: 10.1021/acs.jafc.5b02815. IF (year of publication) = 2.857;
- [69] C. Cavaliere, A.L. Capriotti, P. Foglia, **S. Piovesana**, R. Samperi, S. Ventura, A. Laganà. Natural estrogens in dairy products: Determination of free and conjugated forms by ultra high performance liquid chromatography with tandem mass spectrometry. *Journal of Separation Science*, 2015, 38:3599-3606. DOI: 10.1002/jssc.201500549. IF (year of publication) = 2.741;
- [70] A.B. Serrano, A.L. Capriotti, C. Cavaliere, **S. Piovesana**, R. Samperi, S. Ventura, A. Laganà. Development of a rapid LC-MS/MS method for the determination of emerging fusarium mycotoxins enniatins and beauvericin in human biological fluids. *Toxins*, 2015, 7:3554-3571. DOI: 10.3390/toxins7093554. IF (year of publication) = 3.571;
- [71] A.L. Capriotti, C. Cavaliere, **S. Piovesana**, S. Stampachiachiere, S. Ventura, R. Zenezini Chiozzi, A. Laganà. Characterization of quinoa seed proteome combining different protein precipitation techniques: Improvement of knowledge of nonmodel plant proteomics. *Journal of Separation Science*, 2015, 38:1017-1025. DOI: 10.1002/jssc.201401319. IF (year of publication) = 2.741;
- [72] **S. Piovesana**, A.L. Capriotti, C. Cavaliere, G. La Barbera, R. Samperi, R. Zenezini Chiozzi, A. Laganà. Peptidome characterization and bioactivity analysis of donkey milk. *Journal of*

Proteomics, 2015, 119:21-29. DOI: 10.1016/j.jprot.2015.01.020. IF (year of publication) = 3.867;

- [73] G. Caracciolo, D. Pozzi, A.L. Capriotti, C. Cavaliere, **S. Piovesana**, H. Amenitsch, A. Laganà. Lipid composition: A “key factor” for the rational manipulation of the liposome-protein corona by liposome design. *RSC Advances*, 2015, 5:5967-5975. DOI: 10.1039/C4RA13335H. IF (year of publication) = 3.289;
- [74] A.L. Capriotti, C. Cavaliere, P. Foglia, **S. Piovesana**, S. Ventura, Chromatographic methods coupled to mass spectrometry detection for the determination of phenolic acids in plants and fruits. *Journal of Liquid Chromatography & Related Technologies*, 2015, 38:353–370. DOI: 10.1080/10826076.2014.941263. IF (year of publication) = 0.669;
- [75] A.L. Capriotti, C. Cavaliere, **S. Piovesana**, R. Samperi, S. Stampachiacchiere, S. Ventura. A. Laganà. Multiresidue determination of UV filters in water samples by solid phase extraction and liquid chromatography-tandem mass spectrometry analysis. *Journal of Separation Science*, 2014, 37:2882-2891. DOI: 10.1002/jssc.201400708. IF (year of publication) = 2.737;
- [76] D. Pozzi, G. Caracciolo, A.L. Capriotti, C. Cavaliere, **S. Piovesana**, V. Colapicchioni, S. Palchetti, A. Riccioli, A. Laganà. A proteomics-based methodology to investigate the protein corona effect for targeted drug delivery. *Molecular BioSystems*, 2014, 10:2815-2819. DOI: 10.1039/c4mb00292j. IF (year of publication) = 3.210;
- [77] G. Caracciolo, D. Pozzi, A.L. Capriotti, C. Cavaliere, **S. Piovesana**, G. La Barbera, A. Amici, A. Laganà. The liposome–protein corona in mice and humans and its implications for in vivo delivery. *Journal of Materials Chemistry B*, 2014, 2:7419-7428. DOI: 10.1039/c4tb01316f. IF (year of publication) = 4.726;
- [78] A.L. Capriotti, C. Cavaliere, P. Foglia, **S. Piovesana**, R. Samperi, R. Zenezini Chiozzi, A. Laganà. Development of an analytical strategy for the identification of potential bioactive peptides generated by in vitro tryptic digestion of fish muscle proteins. *Analytical and Bioanalytical Chemistry*, 2014, 407:845-854. DOI: 10.1007/s00216-014-8094-z. IF (year of publication) = 3.125;
- [79] A.L. Capriotti, G. Caracciolo, C. Cavaliere, V. Colapicchioni, **S. Piovesana**, D. Pozzi, A. Laganà. Analytical methods for characterizing the nanoparticle-protein corona. *Chromatographia*, 2014, 406:1423–1435. DOI: 10.1007/s10337-014-2677-x. IF (year of publication) = 1.411;
- [80] M. Mohayeji, A.L. Capriotti, C. Cavaliere, **S. Piovesana**, R. Samperi, S. Stampachiacchiere, M. Toorchi, A. Laganà. Heterosis profile of sunflower leaves: A label free proteomics

- approach. *Journal of Proteomics*, 2014, 99:101-110. DOI: 10.1016/j.jprot.2014.01.028. IF (year of publication) = 3.888;
- [81] D. Pozzi, V. Colapicchioni, G. Caracciolo, **S. Piovesana**, A.L. Capriotti, S. Palchetti, S. De Grossi, A. Riccioli, H. Amenitsch, A. Laganà. Effect of polyethyleneglycol (PEG) chain length on the bio-nano-interactions between PEGylated lipid nanoparticles and biological fluids: from nanostructure to uptake in cancer cells. *Nanoscale*, 2014, 6:2782-2792. DOI: 10.1039/c3nr05559k. IF (year of publication) = 7.394;
- [82] A.L. Capriotti, G.M. Borrelli, V. Colapicchioni, R. Papa, **S. Piovesana**, R. Samperi, S. Stampachiacchiere, A. Laganà. Proteomic study of a tolerant genotype of durum wheat under salt-stress conditions. *Analytical and Bioanalytical Chemistry*, 2014, 406:1423-1435. DOI: 10.1007/s00216-013-7549-y. IF (year of publication) = 3.436;
- [83] A.L. Capriotti, C. Cavaliere, A. Cavazzini, P. Foglia, A. Laganà, **S. Piovesana**, R. Samperi. High performance liquid chromatography tandem mass spectrometry determination of perfluorinated acids in cow milk. *Journal of Chromatography A*, 2013, 1319:72-79. DOI: 10.1016/j.chroma.2013.10.029. IF (year of publication) = 4.258;
- [84] A.L. Capriotti, G. Caruso, C. Cavaliere, P. Foglia, **S. Piovesana**, R. Samperi, A. Laganà. Proteome investigation of the non-model plant pomegranate (*Punica granatum L.*). *Analytical and Bioanalytical Chemistry*, 2013, 405:9301-9309. DOI: 10.1007/s00216-013-7382-3. IF (year of publication) = 3.578;
- [85] A.L. Capriotti, C. Cavaliere, V. Colapicchioni, **S. Piovesana**, R. Samperi, A. Laganà. Analytical strategies based on chromatography-mass spectrometry for the determination of estrogen-mimicking compounds in food. *Journal of Chromatography A*, 2013, 1313:62-77. DOI: 10.1016/j.chroma.2013.06.054. IF (year of publication) = 4.258;
- [86] A.L. Capriotti, C. Cavaliere, P. Foglia, **S. Piovesana**, R. Samperi, S. Stampachiacchiere, A. Laganà. Proteomic platform for the identification of proteins in olive (*Olea europaea*) pulp. *Analytica Chimica Acta*, 2013, 800:36-42. DOI: 10.1016/j.aca.2013.09.014. IF (year of publication) = 4.517;
- [87] **S. Piovesana**, R. Samperi, A. Laganà, M. Bella. Determination of enantioselectivity and enantiomeric excess by mass spectrometry in the absence of chiral chromatographic separation: An Overview. *Chemistry - A European Journal*, 2013, 19:11478-11494. DOI: 10.1002/chem.201300233. IF (year of publication) = 5.696;
- [88] A.L. Capriotti, G. Caruso, C. Cavaliere, **S. Piovesana**, R. Samperi, A. Laganà, Proteomic characterization of human platelet-derived microparticles. *Analytica Chimica Acta*, 2013, 776:57-63. DOI: 10.1016/j.aca.2013.03.023. IF (year of publication) = 4.517;

- [89] A.L. Capriotti, C. Cavaliere, A. Laganà, **S. Piovesana**, R. Samperi. Recent trends in matrix solid-phase dispersion. *TrAC - Trends in Analytical Chemistry*, 2013, 43:53-66. DOI: 10.1016/j.trac.2012.09.021. IF (year of publication) = 6.612;
- [90] A.L. Capriotti, C. Cavaliere, **S. Piovesana**, R. Samperi, A. Laganà. Multiclass screening method based on solvent extraction and liquid chromatography-tandem mass spectrometry for the determination of antimicrobials and mycotoxins in egg. *Journal of Chromatography A*, 2012, 1268:84-90. DOI: 10.1016/j.chroma.2012.10.040. IF (year of publication) = 4.612;
- [91] A.L. Capriotti, G. Caruso, C. Cavaliere, **S. Piovesana**, R. Samperi, A. Laganà. Comparison of three different enrichment strategies for serum low molecular weight protein identification using shotgun proteomics approach. *Analytica Chimica Acta*, 2012, 740:58-65. DOI: 10.1016/j.aca.2012.06.033. IF (year of publication) = 4.384;
- [92] **S. Piovesana**, D.M. Scarpino Schietroma, M. Bella. Multiple catalysis with two chiral units: an additional dimension for asymmetric synthesis. *Angewandte Chemie International Edition*, 2011, 50:6216-6232. DOI: 10.1002/anie.201005955. IF (year of publication) = 13.455;
- [93] **S. Piovesana**, D.M. Scarpino Schietroma, L.G. Tulli, M.R. Monaco, M. Bella. Unsaturated beta-ketoesters as versatile electrophiles in organocatalysis. *Chemical Communications*, 2010, 46:5160-5162. DOI: 10.1039/c003296d; IF (year of publication) = 5.787;

Part XV – Conference Proceedings and Editorials

- [1] A.L. Capriotti, G. La Barbera, **S. Piovesana***, Recent Trends in Solid-Phase Extraction for Environmental, Food and Biological Sample Preparation. *Chromatographia*, 2019, 82:1119–1120. DOI: 10.1007/s10337-019-03762-5.
- [2] K. Sparnacci, D. Antonioli, V. Gianotti, M. Laus, A. Laganà, **S. Piovesana**. Multishell hybrid magnetic nanoparticles for phosphopeptide enrichment. *AIP Conference Proceedings* 2018, 1981: 020174. DOI: 10.1063/1.5046036.

Part XVI – Book Chapters

- [1] Cerrato, A., Capriotti, A.L., Montone, C.M., Aita, S.E., Cannazza, G., Citti, C., **Piovesana, S.**, Aldo, L. (2021) Analytical Methodologies for Lipidomics in Hemp Plant. In: Hsu FF. (eds) Mass Spectrometry-Based Lipidomics. *Methods in Molecular Biology*, vol 2306, pp. 257-273. Humana, New York, NY. https://doi.org/10.1007/978-1-0716-1410-5_17

Part XVII – Committee in Scientific Conferences

- [1] Member of the local organizing committee of the Y-RICH Annual Workshop 2017 - Young Research Ideas in Chemistry, Rome, 23 June 2017.

Part XVIII – Schools and Courses

- [1] Scuola Nazionale “Metodologie Analitiche in Spettrometria di Massa” Parma, 20-24 May 2013.

Rome, 23/09/2021

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