ALL. B – Stefania Cesa

Decreto Rettore Università di Roma "La Sapienza" n **2029/2021 del 27.07.2021**

Stefania Cesa
Curriculum Vitae

## Part I – General Information

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|---|---|
| Full Name | Stefania Cesa |
| Spoken Languages | Italian mother tongue, English intermediate |

## Part II – Education

| Type | Year | Institution | Notes (Degree, Experience,…) |
|---|---|---|---|
| University graduation | 1990 | Sapienza University of Rome | Full mark graduation in Pharmaceutical Chemistry and Technology |
| Post-graduate studies | | | |
| PhD | 1996 | Sapienza University of Rome | Pharmaceutical Sciences VIII cycle. Doctoral thesis title: Carbossilazione per via elettrochimica: sintesi di prodotti biologicamente attivi (Electrochemical carboxylation: synthesis of bioactive compounds). |
| Pre-doctorate training | 1991-1993 | National Research Counsil | Progetto finalizzato "Chimica fine II" Research grant for "Sintesi chimica ed elettro chimica di β-lattami" (Chemical and electrochemical synthesis of β-lactams). |

## Part III – Appointments

IIIA – Academic Appointments

| Start | End | Institution | Position |
|---|---|---|---|
| 1995 | 1999 | Sapienza University of Rome | Researcher |
| 1999 | 2021 | Sapienza University of Rome | Confirmed researcher |

## Part IV – Teaching experience

| Year | Institution | Lecture/Course |
|---|---|---|
| 1995- | Sapienza University of Rome – | Cycle of lessons on Drinking Water, and Food |

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|---|---|---|
| 1998 | Degree course in Pharmaceutical Chemistry and Technology | Additives (Course of Food Chemistry, Prof. Franco Micheletti Moracci) |
| 1999-2004 | Sapienza University of Rome – Degree course in Pharmaceutical Chemistry and Technology | Course of Food Chemistry |
| 2003-2010 | Sapienza University of Rome – Degree course in Pharmaceutical Chemistry and Technology | Course of Chemical Analysis of Foods |
| 2010-2016 | Sapienza University of Rome – Degree course in Pharmacy | Course of Chemistry of Foods and Dietetic Products |
| 2010- | Sapienza University of Rome – Bachelor's degree in Prevention and Safety in the Environment and Workplace | Course of Food Chemistry |
| 2013- | Sapienza University of Rome – Bachelor's degree in Applied Pharmaceutical Sciences | Course of Plant-Based Food Supplements |
| 2000- | Sapienza University of Rome – Degree course in Pharmaceutical Chemistry and Technology, Pharmacy and Bachelor's degree in Applied Pharmaceutical Sciences | Tutor of graduating students, dissertation and experimental thesis |
| 2009-2011 | Sapienza University of Rome – PhD course in Pharmaceutical Sciences | PhD tutor of Dr. Daniela Serricchio XXIV cycle |
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| 2012-2014 | Sapienza University of Rome – PhD course in Pharmaceutical Sciences | PhD tutor of Dr. Lucia De Iuri, XXVII cycle |
| 2014-2015 | Sapienza University of Rome – II level Master – Pharmaceutical and Nutraceutical Technologies of Grape and Other Vegetables | Steering Committee and teaching activity |
| 2015-2017 | Sapienza University of Rome – II level Master – Nutraceutic and cosmeceutic of vegetal products | Steering Committee and teaching activity |
| 2018- | Sapienza University of Rome – II level Master – The key managers of nutraceutic and cosmeceutic companies | Steering Committee and teaching activity |
| 2018- | Sapienza University of Rome – PhD course in Pharmaceutical Sciences | PhD Tutor of Dr. Francesco Cairone, XXXIV cycle |

**Part IVB – Institutional positions**

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|---|---|---|
| 2014- | Sapienza University of Rome - Bachelor's degree in Applied Pharmaceutical Sciences | Member of the didactic commission |
| 2020- | Sapienza University of Rome, Pharmaceutical Sciences PhD | Member of the Teaching staff of the research doctorate |

**Part V - Society memberberships, Awards and Honors**

| Year | Title |
|---|---|
| 2019- | Founding partner of ITACHEMFOOD, Italian Society of Food Chemistry |

**Part VI - Funding Information [grants as PI-principal investigator or I-investigator]**

| Year | Title | Program | Grant value |
|---|---|---|---|
| 2008-2010 | Principal investigator in the research project: "Il problema dell'ossidazione lipidica nei latti formulati per l'infanzia: aspetti analitici, tossicità della malondialdeide, studio di sistemi protettivi nei confronti dell'autossidazione | Research contract with "Plasmon, Plada industriale S.r.l." Procuratore Dr. Andrea Budelli | 45000 euro |
| 2013 | Principal investigator in the research project: "Studio del mirtillo come alimento salutistico nella prevenzione delle malattie associate alla sindrome dismetabolica" | Sapienza,<br>Ricerche universitarie<br>Prot. C26A13H29Z | 3000 euro |
| 2014 | Principal Investigator in the research project: "*Punica granatum* L.: potenziale terapeutico dei componenti del succo, delle bucce, dei semi del melograno" | Sapienza,<br>Ricerche universitarie<br>Prot. C26A1492J3 | 3000 euro |
| 2015 | Principal Investigator in the research project: "Valutazione dell'attività antiossidante ed antiproliferativa di ellagitannini estratti da Punica granatum L." | Sapienza,<br>Ricerche universitarie<br>Prot. C26A1524SW | 4000 euro |
| 2016 | Principal Investigator in the research project: "Bacche di goji (Lycium barbarum L.): un nuovo alimento funzionale". | Sapienza,<br>Ricerche di Ateneo<br>Prot. RP116154E7012EA9 | 5000 euro |
| 2018 | Principal Investigator in the research project: "Valutazione della qualità di oli extravergine di oliva di origine italiana | Sapienza,<br>Ricerche di Ateneo<br>Prot. RP1181643691A145 | 4000 euro |
| 2019 | Principal Investigator in the research project: "Valutazione degli effetti dei trattamenti tecnologici sulla componente polifenolica delle fragole" | Sapienza,<br>Ricerche di Ateneo<br>Prot. RP11916B73FBB39F | 5000 euro |
| 2020 | Principal Investigator in the research project: Valutazione dell'attività biologica della | Sapienza,<br>Ricerche di Ateneo<br>Prot. RP120172B414F81B | 4000 euro |

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| componente polifenolica delle visciole (Prunus cerasus L.) |

**Part VII – Research Activities**

| Keywords | Brief Description |
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| Functional foods | The scientific activity was articulated in different interest areas: |
| Food waste valorization | 1.Studies on functional foods with the aim to deep the knowledge about the contained bioactive compounds and correlated activities |
| HPLC-DAD analysis | 2. Food waste valorisation by selective extraction of interesting classes of compounds. |
| Color CIEL*a*b* analysis | 3. Development of new analytical techniques aiming to characterize foods in terms of interesting molecules or evaluation of quality and marker parameters |
| Spectrophotometric analysis | 4. Study of nanoparticles and liposomes as protective and vehicle systems of bioactive compounds. |
| | 1. Foods with high nutritional interest (pomegranate, goji berries, blueberries, extra virgin olive oils, strawberries and many others) were selected on the market or directly by producers, classified and submitted to several procedural techniques, extraction technologies and analytical methods. Attention was paid to anthocyanin, flavonoid, carotenoid and ellagitannin components, with the aim to evaluate the modification induced by the applied treatments and to deep the knowledge of the phytocomplex composition. In collaboration with different research groups, the overall antioxidant and anti-radical capacity and the ability to modulate selected enzymes (glucosidase, amylase, cholinesterase) and antifungal activity was tested. This activity is documented by articles N° 20, 21, 23-25, 27, 30, 32, 40, 46, 51, 53-56 in the complete publication list. |
| | 2. Some of the analyzed matrices were commercially used in the preparation of jams, homogenates and juices, showing significant waste residues, as in the case of pomegranate peels. These residues could easily be transformed in products with high added value and health properties, contextually reducing the environmental impact. Pomegranate peels were used to extract punicalagins and ellagic acid and relative extracts were tested as anti-cancer (bladder cancer) and modulating agents on PDIA3 disulphide isomerase, involved in the regulation of several cellular functions and associated with cancer and neurodegenerative diseases. This activity is documented by articles N° 17, 34, 37, 38, 42, 44, 45 in the complete publication list. |
| | 3. Several extraction methods (double phase extraction, extraction assisted by microwaves, extraction with supercritical $CO_2$) and purification techniques (SPE, semipreparative HPLC, direct and RP18 chromatography) were applied. HPLC-DAD, spectrophotometric and colorimetric CIEL*a*b* analyses were applied and correlated with data provided by other research groups (HS-GC-MS, LC-MS, NMR) by ANOVA-PCA data analysis. Afforded results allowed to better characterise the analyzed matrices and to evaluate the effects of the adopted treatment procedures. In this context, the oxidative stability of infant milk formulas and breast milk were evaluated, with regard to the malondialdehyde content, the peroxide value and the colorimetric parameters. This activity is documented by |

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| articles N° 7, 13, 16, 22, 26, 29, 33, 35, 39, 41, 50, 52 in the complete publication list. | |
| 4. In collaboration with pharmaceutical technologist researchers, new protecting and vehiculating systems were studied and applied on selected pure molecules and/or on extracts obtained by food and food waste. In this context modified sugars polymer and lipid nanoparticles were studied. Polyunsaturated fatty acids, seeds extracts were vehiculated and protected by SLN and NLC systems. This activity is documented by articles N° 8, 12, 14, 19, 28, 31, 36, 43, 48, 49 in the complete publication list. | |

**Part VII B –Speaker at International Congresses**

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| 24-27 settembre 2018- | *XII Italian Food Chemistry Congress*, Canerino | Cairone, F., Carradori, S., Locatelli, M., Mulinacci, N., Giusti A.M., Gazzino R., Cesa, S.: Reflectance colorimetry: a mirror for food quality |
| 13-15 aprile 2020- | 9th *International Conference on Nutrition and Food Science,* Barcelona | Cesa, S., Cairone, F., Carradori, S., Garzoli, S.: Effects of processing on Clery Strawberries Phytocomplex Composition |

**Part VII C Scientific Collaboration**

- Prof. Gokhan Zengin, Department of Biology, Science Faculty, Selcuk University, Konya, Turkey.
- Prof. Andrei Mocan, Department of Pharmaceutical Botany "Iuliu Hatieganu" University of Medicine and Pharmacy, Cluj Napoca, Romania
- Prof. Fadila Benayache, Unité de Recherche Valorisation des Ressources Naturelles, Molécules Bioactives et Analyses Physicochimiques et Biologiques, Université Frères Mentouri, Constantine 1, Route d'Aïn El Bey, Constantine, Algeria.
- Prof. Mijat Bozovic, Faculty of Natural Sciences and Mathematics, University of Montenegro, Podgorica, Montenegro.
- Prof. Jungnickel, Department of Colloid and Lipid Science, Faculty of Chemistry, Gdan´sk University of Technology, Gdan´sk, Poland.
- Prof. Luigi Menghini, Department of Pharmacy, "G. d'Annunzio" University of Chieti–Pescara, Italy
- Prof. Nadia Mulinacci, Department of Neuroscience, Psychology, Drug and Child Health, Pharmaceutical and Nutraceutical Section, University of Florence, Florence, Italy
- Prof. Fabio Altieri, Dipartimento di Scienze Biochimiche "A.Rossi Fanelli", "Sapienza" University of Rome, Italy
- Prof. Eugenio Lendaro, Dipartimento di Scienze e Biotecnologie Medico-Chirurgiche, "Sapienza" University of Rome, Latina, Italy
- Prof. Luciana Mosca, Dipartimento di Scienze Biochimiche "A.Rossi Fanelli", "Sapienza" University of Rome, Italy
- Dott. Settimio Pacelli, BioIntel Research Laboratory, Department of Chemical and Petroleum Engineering, Bioengineering Graduate Program, School of Engineering, University of Kansas, 66045 Lawrence, USA
- Dott. Simone Carradori, Dipartimento di Farmacia, Università "G. d'Annunzio" di Chieti-Pescara, Italy
- Dott.ssa Alessandra Masci, Dipartimento di Medicina Sperimentale, Unità di Ricerca di Scienza dell'Alimentazione e Nutrizione Umana, "Sapienza" University of Rome, Italy
- Dott.ssa Giovanna Simonetti, Dipartimento di Sanità Pubblica e Malattie Infettive,

- "Sapienza" University of Rome, Italy
- Dott.ssa Anna Maria Giusti, Dipartimento di Medicina Sperimentale, Sapienza" University of Rome, Italy

**Part VIII – Summary of Scientific Achievements**

| Product type | Number | Data Base | Start | End |
|---|---|---|---|---|
| Papers [international] | 56 | Scopus | 1995 | 2021 |
| Books [scientific] | 1 | Cesa, S. De Monte, C.: Use of saffron as functional food and saffron nutraceuticals in "Saffron" Edited by Charis M. Galanakis, ISBN: 978-0-12-821219-6, Elsevier Academic press. | 2021 | |
| Books [teaching] | 1 | Mulinacci, N.; Innocenti, M.; Cossignani, L.; Blasi, F.; Montesano, D.; Dugo, G.; Saitta, M.; Cicero, N.; Di Bella, G.; Mannina, L.; Sobolev, A. P.; Cesa, S.; Casini, A.; Ingallina, C.; Salvo, A..: Cap. 6. Lipidi e Mulinacci, N.; Innocenti, M.; Cossignani, L.; Blasi, F.; Montesano, D.; Dugo, G.; Saitta, M.; Cicero, N.; Di Bella, G.; Mannina, L.; Sobolev, A. P.; Cesa, S.; Casini, A.; Ingallina, C.; Salvo, A.: Cap. 7 Alimenti lipidici, capitoli di libro in "La chimica e gli alimenti. Nutrienti e aspetti nutraceutici" a cura di Luisa Mannina, Maria Daglia, Alberto Ritieni. ISBN: 978-88-08-18494-8. CEA Casa Editrice Ambrosiana | 2019 | |
| Books [scientific] | 1 | Baccari, S., Cesa S., De Iuri, L., Floridi, F., Rolfo, A.: Integratori alimentari a base vegetale. Effetti sulla salute e guida all'utilizzo. ISBN: 978-88-548-8683-4, Aracne Editrice. | 2015 | |
| Special Issue | 1 | Guest Editor of the Special Issue: "Application of Chromatography and spectroscopy in Natural Foods Analysis" Foods, MDPI | 2020 | |

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| Total Impact factor | 195.378 |
| Total Citations | 942 |

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|---|---|
| Average Citations per Product | 16.8 |
| Hirsch (H) index | 18 |
| Normalized H index* | 0.69 |

*****H index divided by the academic seniority.

**Part IX– Selected Publications**

List of the publications selected for the evaluation.

| | Authors | Title | Journal | Reference data | Doi, Press/Media Release | JIF Citations |
|---|---|---|---|---|---|---|
| 1 | Cairone, F., Simonetti, G., Orekhova, A., Casadei, M.A., Zengin, G., Cesa, S. | Health Potential of Clery strawberries: Enzymatic Inhibition and anti-Candida Activity evaluation | Molecules | 2021, 26 (6) Art. N° 1731 | 10.3390/molecules26061731 All rights reserved, Open access | 4.411 0 |
| 2 | Garzoli, S, Cairone, F., Carradori, S., Mocan, A., Menghini, L., Paolicelli, P., Ak, G., Zengin, G., Cesa, S. | Effects of Processing on Polyphenolic and Volatile Composition and Fruit Quality of Clery Strawberries | Antioxidants | 2020, 9(7) Art. N° 632 | 10.3390/antiox9070632 All rights reserved, Open access | 6.312 1 |
| 3 | Balli, D., Cecchi, L., Khatib,M., Bellumori, M., Cairone, F., Carradori, S., Zengin, G., Cesa, S., Innocenti, M., Mulinacci, N. | Characterization of Arils Juice and Peel Decoction of Fifteen Varieties of Punica granatum L.: A Focus on Anthocyanins, Ellagitannins and Polysaccharides | Antioxidants | 2020, 9(3), Art. N° 238 | 10.3390/antiox9030238 All rights reserved, Open access | 6.312 13 |
| 4 | Altieri, F., Cairone, F., Giamogante, F., Carradori, S., Locatelli, M., Chichiarelli, S., Cesa, S. | Influence of ellagitannins extracted by pomegranate fruit on disulfide isomerase PDIA3 activity. | Nutrients | (2019). 11(1), 186. | 10.3390/nu11010186 All rights reserved, Open access | 4.546 12 |
| 5 | Mocan, A., Cairone, F., Locatelli, M., Cacciagrano, F., Carradori, S., Vodnar, D.C., Crisan, G., Simonetti, G., Cesa S. | Polyphenols from Lycium barbarum (Goji) Fruit European Cultivars at Different Maturation Steps: Extraction, HPLC-DAD Analyses, and Biological | Antioxidants | 2019, 8(11) Art. N° 562 | 10.3390/antiox8110562 All rights reserved, Open access | 4.520 10 |

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|---|---|---|---|---|---|---|
| | | Evaluation | | | | |
| 6 | Masci A., Carradori, S., Casadei, M.A., Paolicelli P., Petralito S., Ragno R., Cesa S. | Lycium barbarum polysaccharides: Extraction, purification, structural characterisation and evidence about hypoglycaemic and hypolipidaemic effects. A review | Food Chemistry | 2018, 250, 377-398 | 10.1016/j.foodchem.2018.01.176 All rights reserved, only procedure administrators | 5.399 71 |
| 7 | Patsilinakos, A., Ragno, R., Carradori, S., Petralito, S., Cesa, S. | Carotenoid content of Goji berries: CIELAB, HPLC-DAD analyses and quantitative correlation | Food Chemistry | 2018, 268, 49-56 | 10.1016/j.foodchem.2018.06.013 All rights reserved, only procedure administrators | 5.399 21 |
| 8 | Cesa, S., Carradori, S., Bellagamba, G., Locatelli, M., Casadei, M.A., Masci, A., Paolicelli, P. | Evaluation of processing effects on anthocyanin content and colour modifications of blueberry (Vaccinium spp.) extracts: Comparison between HPLC-DAD and CIELAB analyses | Food Chemistry | 2017, 232, 114-123 | 10.1016/j.foodchem.2017.03.153 All rights reserved, only procedure administrators | 4.946 40 |
| 9 | Masci, A., Coccia, A., Lendaro, E., Mosca,L., Paolicelli,P., Cesa, S. | Evaluation of different extraction methods from pomegranate whole fruit or peels and the antioxidant and antiproliferative activity of the polyphenolic fraction | Food Chemistry | 2016, 202, 59-69 | 10.1016/j.foodchem.2016.01.106 All rights reserved, only procedure administrators | 4.529 73 |
| 10 | Cesa, S, Casadei, Cerreto, F., Paolicelli, P. | Infant Milk Formulas: Effect of Storage Conditions on the Stability of Powdered Products towards Autoxidation | Foods MDPI | 2015, 4 (3), 487-500 | 10.3390/foods4030487 All rights reserved, Open access | --- 19 |
| 11 | Cesa, S., Casadei, M.A., Cerreto, F., Paolicelli, P. | Influence of fat extraction methods on the peroxide value in infant formulas | Food Research International | 2012,48 (2), 584-591 | 10.1016/j.foodres.2012.06.002 All rights reserved, only procedure administrators | 3.552 16 |
| 12 | Cesa, S. | Malondialdehyde contents in infant milk formulas | Journal of Agricultural and Food | 2004, 52(7), 2119- | 10.1021/jf034446l All rights reserved, only procedure administrators | 2.516 38 |

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| | | | chemistry | 2122 | | |

**Roma, 30 luglio 2021**

**Dott.ssa Stefania Cesa**
**Firmato digitalmente**