ALL. B

Decreto Rettore Università di Roma "La Sapienza" n. **1611/2022** del **10.05.2022**

CRISTINA NOCELLA
Curriculum Vitae

Place: Rome
Date: 07/07/22

Part II – Education

Type	Year	Institution	Notes (Degree, Experience)
University graduation	2006/2007	Sapienza University of Rome	Bachelor degree in Biological Sciences. Mark: 110/110 with Honours Title of thesis: *Determinazione tramite citofluorimetria della proteina pro-aterogena CD40L: ruolo el TNFα* Tutor: Francesco Violi
University graduation	2009/2010	Sapienza University of Rome	Master Degree in "Biology applied to biomedical research". Mark: 110/110 with Honours Title of thesis: *Effetto degli omega n-3 sullo stress ossidativo in pazienti affetti da scompenso cardiaco.* Tutor: Pasquale Pignatelli
PhD	2017	Sapienza University of Rome	PhD in "Immunological, Hematological and Rheumatological Sciences". Title of thesis: *Gut-derived lipopolysaccharide and platelet activation: implications for patients at risk of cardiovascular disease* Tutor: Giacomo Frati

Part III – Appointments

IIIA – Academic Appointments

Start	End	Institution	Position
2011	2013	Sapienza University of Rome, Department of Internal Medicine	Research Fellow **(L. 240/2010)** Reaserch Title:

		and Medical Specialties	*"The role of phisical exercise on inflammation and oxidative stress in patients with metabolic syndrome"*
2013	2014	Sapienza University of Rome, Department of Internal Medicine and Medical Specialties	Research Fellow **(L. 240/2010)** Reaserch Title: "*The role of phisical exercise on inflammation and oxidative stress in patients with metabolic syndrome".*
2019	In progress	Sapienza University of Rome, Department of Clinical, Internal, Anesthesiologic and Cardiovascular Sciences	RTDA. Reaserch Title: "*Role of lipopolysaccharide in platelet activation during the atherothrombotic process".*

IIIB – Other Appointments

2018	2019	IRCCS Neuromed, Department of Angiocardioneurology, Pozzilli (IS)	Post-doc scholarship Reaserch Title: "*The role of authophagy as a protective mechanism in cardiovascular disease: new insights into oxidative stress modulation and cardiovascular regeneration"*

Part IVa – Teaching experience

Year	Institution	Lecture/Course
From 2019 to date	Sapienza University of Rome, Nursing (qualifying for the health profession of Nurse) ROME - Degree Course A - Azienda Policlinico Umberto I L/SNT1	Hygiene
2019/2020	Sapienza University of Rome, Nursing (qualifying for the health profession of Nurse) ROME - Degree Course A - Azienda Policlinico Umberto I L/SNT1	Epidemiology
From 2020 to date	Sapienza University of Rome, Nursing (qualifying for the health profession of Nurse) - Degree Course O - Frosinone ASL Frosinone Umberto I L/SNT1	Medical Genetics
From 2020 to date	Sapienza University of Rome, Nursing (qualifying for the health profession of Nurse) - Degree Course W - ASL Latina	Histology

	Formia - Gaeta L/SNT1	
From 2021 to date	Sapienza University of Rome, Nursing (qualifying for the health profession of Nurse) - Degree Course W - ASL Latina Formia - Gaeta L/SNT1	Human anatomy
From 2020 to date	Sapienza University of Rome, Nursing (qualifying for the health profession of Nurse) - Degree course U - Molise Region - IRCCS Neuromed Pozzilli L/SNT1	Oncology
From 2021 to date	Sapienza University of Rome, Nursing (qualifying for the health profession of Nurse) - Degree course U - Molise Region - IRCCS Neuromed Pozzilli L/SNT1	Blood Diseases
From 2021 to date	Sapienza University of Rome, Nursing (qualifying for the health profession of Nurse) - Degree course Q – ASL Latina L/SNT1	Applied Biology

Part IVb – Degree Theses Supervision

2020/2021	Sapienza University of Rome, Nursing (qualifying for the health profession of Nurse) ROME - Degree Course A - Azienda Policlinico Umberto I L/SNT1	Thesis Supervisor Thesis title: "*La corsa dell'epatite a: dall'Europa alla Campania*". Student: Cosimo Cusano
2021/2022	Sapienza University of Rome, Pharmaceutical Chemistry and Technology ROME - Single cycle master's degree	Thesis Co-Supervisor Thesis title: "*Microbiota intestinale e malattie cardiovascolari: ruolo del TAK-242 (Resatorvid) come inibitore del TLR4*". Student: Chiara Felici
From 2020 do date	Sapienza University of Rome, Pharmaceutical Chemistry and Technology ROME - Single cycle master's degree	Thesis Co-Supervisor Thesis title: "*Studio della permeabilità intestinale in pazienti pre e post trattamento con inibitore del PCSK9*". Student: Francesca Trastulli
From 2022	Sapienza University of Rome, Pharmaceutical Chemistry and Technology ROME - Single cycle master's degree	Thesis Co-Supervisor Thesis title: "*Ruolo della rifaximina nella riduzione dei livelli di LPS derivante dal microbiota intestinale*". Student: Barbara Zuin

Part Va - Society memberberships, Awards and Honors

Year	Title
From 2017 to date	Member of the Italian Society of Pathology and Translational Medicine (SIPMeT)
From 2019 to date	Member of the Italian Society of Atherosclerosis Study (SISA)
From 2022	Member of the Italian Society for the Study of Haemostasis and Thrombosis (SISET)
2019	Travel grant, 33° Congresso Nazionale SISA
2020	Eligible to be appointed as associate professor for the "Settore Concorsuale 06/N1", from 22/06/2020 to 22/06/2029

Part Vb - Selection for Oral Presentation at national and international conferences

2011	Selected speaker at 12° National congress "Gruppo di Studio delle Piastrine". Oral presentation title: *"LDL oxidation by platelets enhances platelet isoprostanes formation: a novel mechanism of platelet activation".*
2012	Selected speaker at 13° National congress "Gruppo di Studio delle Piastrine". Oral presentation title: *"Effetto immediato dell'atorvastatina su stress ossidativo e funzionalità piastrinica: ruolo della NOX2".*
2013	Selected speaker at 14° National congress "Gruppo di Studio delle Piastrine". Oral presentation title: *"Lipopolysaccharide and platelets: new insight into platelet activation".*
2014	Selected speaker at 23° National Congress of "Società Italiana per l'emostasi e la trombosi, SISET". Oral presentation title: *"Bacterial lipopolysaccharide amplifies platelet aggregation by common agonists via overproduction of thromboxane A2 and isoprostane 8-iso-PGF2α-III".*
2015	Selected speaker at 16° National congress "Gruppo di Studio delle Piastrine". Oral presentation title: *"Endotoxemia as mechanism for platelet aggregation via eicosanoids formation in patients with pneumonia".*
2015	Selected speaker at International Congress of "American Heart Association". Oral presentation title: *"Endotoxemia As Mechanism For Platelet Aggregation In Patients With Pneumonia"*
2017	Selected speaker at International Congress of "Società Italiana di Patologia e Medicina Traslazionale, *SIPMeT*". Oral presentation title: *"Lipopolysaccharide as trigger of platelet aggregation via eicosanoid over-production".*
2018	Selected speaker at 19° National congress "Gruppo di Studio delle Piastrine". Oral presentation title: *"Lipopolisaccaride intestinale e attivazione piastrinica nei pazienti HIV: ruolo di diversi modelli di carica virale".*
2018	Selected speaker at 35° National Cardiology Congress of "Conoscere e curare il cuore". Oral presentation title: *"Localization of lipopolysaccharide from Escherichia coli into human atherosclerotic plaque"*

2019	Selected speaker at 20° National congress "Gruppo di Studio delle Piastrine". Oral presentation title: *"Low-Grade Endotoxemia Enhances Artery Thrombus Growth Via Toll-Like Receptor 4. Implication for Myocardial Infarction".*
2019	Selected speaker at 36° National Cardiology Congress of "Conoscere e curare il cuore". Oral presentation title: *"Digoxin and platelet activation in atrial fibrillation patients: in vivo and in vitro study"*
2020	Selected speaker at International Congress of "International Society on Thrombosis and Haemostasis (ISTH)". Oral presentation title: *"Low-Grade Endotoxemia Enhances Artery Thrombus Growth Via Toll-Like Receptor 4. Implication for Myocardial Infarction"*
2020	Selected speaker at 37° National Cardiology Congress of "Conoscere e curare il cuore". Oral presentation title: "*Lipopolisaccaride intestinale e attivazione piastrinica nei pazienti HIV: ruolo di diversi modelli di carica virale"*.
2020	Selected speaker at 34° National Congress of "Società Italiana Studio Aterosclerosi (SISA)". Oral presentation title: "*Gut Permeability-Related Toll-Like Receptor 4-Primed Platelets in Myocardial Infarction"*.
2020	Invited speaker at Regional Congress of "Società Italiana Studio Aterosclerosi (SISA)". Oral presentation title: "*LPS e aterosclerosi in pazienti con STEMI"*.

Part Vc - Selection for Poster at national and international conferences

2017	Selected Poster at 7th International Conference on "*Coagulation in Liver Disease"*. Poster title: *"Low-grade endotoxemia and platelet activation in cirrhosis".*
2018	Selected poster at 25° National Congress of "Società Italiana per l'emostasi e la trombosi, SISET". Poster title: *"Serum albumin is inversely associated with portal vein thrombosis in cirrhosis".*
2019	Selected poster at 34° National Congress of "Società Italiana Studio Aterosclerosi (SISA)". Poster title: "*Lipopolysaccharide induces platelet activation in HIV patients: the role of different viral load patterns"*.
2021	Selected poster at 35° National Congress of "Società Italiana Studio Aterosclerosi, SISA". Poster title: *"Aging-Related Decline of Autophagy in Patients with Atrial Fibrillation. A post-hoc analysis from the ATHERO-AF study".*

Part Vd – Editorial Board

From 2021 to date	Member of the Editorial Board as Academic Editor of "Oxidative medicine and cellular longevity" IF: 7.310
2021	Guest Editor of the Special Issue ""Dietary Bioactives and Atherosclerotic Cardiovascular Disease", Nutrients IF: 4.546.

Part Ve – Reviewer

	Reviewer for the following international scientific journals: "Antioxidant; IF: 7.675", "Oxidative medicine and cellular longevity IF: 7.31", "Nutrition, IF: 4.893", "Thrombosis and Haemostasis; IF: 6.681".
2021	Invited reviewer for grant proposal for the National Science Center, Poland. Funding scheme: **SONATA BIS-11** Institution: **Medical University of Warsaw**
2021	Invited reviewer for grant proposal for the National Science Center, Poland. Funding scheme: **OPUS-21** Institution: **Jagiellonian University in Cracow**

Part VI – Research Activities

Keywords	Brief Description
• Mechanisms of platelet activation • Gut-derived LPS	In these years, my research interest has been the study of the mechanisms of platelet activation, which plays a role in the onset of cardiovascular disease. Among mechanisms that elicit platelet activation, oxidative stress plays a major role favouring platelet hyperactivity. Indeed, upon stimulation by physiological agonists, human platelets generate and release several types of reactive oxygen species (ROS) by NOX2 activation. More recently, I studied other mechanisms of platelet activation such as during an inflammatory response. In these pathological conditions, platelet activation could be mediated by different promoting factors such as LPS. Indeed, colleague and I demonstrated that LPS, at a concentration similar to that we found in human circulation, could trigger platelet aggregation and activation. LPS could be derived from gut microbiota as a consequence of dysbiosis. Therefore, we studied the role of gut-derived LPS on platelet activation and thrombus formation and demonstrated that LPS promotes thrombus growth by the amplification and propagation of platelet aggregation suggesting that the reduction of circulating LPS levels could represents a strategy potentially useful reducing the inflammatory or the thrombotic process in different categories of patients.
• NOX2-mediated oxidative stress • NOX2 regulation mechanisms	I studied, in cardiovascular diseases, the role of NADPH oxidase and in particular its isoform NOX2, the most important ROS-producing enzyme. Specifically, I evaluated the relationship between NOX2 and metalloproteinase 2 (MMP2), a zinc- and calcium-dependent endopeptidase involved in the degradation and remodeling of the extracellular matrix during several physiological and pathological processes, hypothesizing an involvement of MMP2 in the regulation of NOX2 function. The

	study showed that MMP2 could play a new role in modulating oxidative stress by regulating NOX2 activity in platelets and polymorphonuclear cells. This result is evidenced by 1) a decrease in ROS production and NOX2 activity after 20 minutes of cell stimulation and 2) persistent ROS production in cells treated with an MMP2 inhibitor. This result suggests that MMP2 could represent a new tool to reduce NOX2 activation in contexts characterized by an overproduction of ROS derived from NOX2 activation such as in cardiovascular diseases.
• Antioxidant treatment • Nutraceutic approach	Oxidative stress is a common feature of many human disorders, such as cardiovascular disease. Many of the risk factors, including smoking, hypertension, hypercholesterolemia, diabetes, and obesity, are associated with an increased risk of developing cardiovascular disease, involving an elevated oxidative stress burden (either due to enhanced ROS production or decreased antioxidant protection). There are many therapeutic options to treat oxidative stress-associated cardiovascular diseases. Numerous studies have focused on the utility of antioxidant supplementation. However, whether antioxidant supplementation has any preventive and/or therapeutic value in cardiovascular pathology is still a matter of debate. Therefore, I evaluated the effect of some antioxidant demonstrating that 1) a high adherence to the Mediterranean diet reduces oxidative stress in patients with NAFLD; 2) specific components of extra-virgin olive oil (EVOO) such as oleuropein, improves the post-prandial glycemic profile in diabetic patients; 3) a Mix of polyphenols (catechin and epicatechin) and threalose, a disaccharide, reduce the impact of risk factors on the onset of cardiovascular disease.

Part VII – Summary of Scientific Achievements

Product type	Number	Data Base	Start	End
Papers [international]	111	Scopus	2011	2022
Patents	2	1)https://patentscope.wipo.int/search/en/detail.jsf?docId=WO2019111142 2) Patent deposited 12/06/2017, n° 102017000064897.		
Books [scientific]	1	ISBN 978-953-51-6072-4		

Total Impact factor	558,33
Total Citations	2685
Average Citations per Product	24,2
Hirsch (H) index	31
Normalized H index*	2.82

*H index divided by the academic seniority.

Link to Bibliographic-scientometric parameters of Cristina Nocella
-link to Pubmed:
https://pubmed.ncbi.nlm.nih.gov/?term=Nocella+C&sort=date&filter=dates.2011-2022
- link to Scholar:
https://scholar.google.com/scholar?hl=it&as_sdt=0%2C5&q=Cristina+Nocella&oq=
- link to Scopus:
https://www.scopus.com/authid/detail.uri?authorId=38961782000

Part VIII– Selected Publications

List of the publications selected for the evaluation. For each publication report title, authors, reference data, journal IF (if applicable), citations, press/media release (if any).

1. Violi F, Cammisotto V, Bartimoccia S, Pignatelli P, Carnevale R, **Nocella C**. Gut-derived low-grade endotoxaemia, atherothrombosis and cardiovascular disease. Nature Review Cardiology. 2022. doi: 10.1038/s41569-022-00737-2. **IF: 49.421; citations: 0**

2. D'Amico A, Cavarretta E, Fossati C, Borrione P, Pigozzi F, Frati G, Sciarretta S, Costa V, De Grandis F, Nigro A, Peruzzi M, Miraldi F, Saade W, Calogero A, Rosa P, Galardo G, Loffredo L, Pignatelli P, **Nocella C*** (corresponding authors)**,** Carnevale R*. Platelet Activation Favours NOX2-Mediated Muscle Damage in Elite Athletes: The Role of Cocoa-Derived Polyphenols. Nutrients. 2022;1:1558. **IF: 6.706; citations: 0**

3. Carnevale R*, **Nocella C*** (equal contribution)**,** Schiavon S, Cammisotto V, Cotugno M, Forte M, Valenti V, Marchitti S, Vecchio D, Biondi Zoccai G, Rubattu S, Martinelli O, Pignatelli P, Violi F, Volpe M, Versaci F, Frati L, Frati G, Sciarretta S. Beneficial effects of a combination of natural product activators of autophagy on endothelial cells and platelets. Br J Pharmacol. 2021;178:2146-2159. **IF: 9.473; citations: 5**

4. **Nocella C** (corresponding author), Mezzaroma I, Cammisotto V, Castellani V, Milito C, Rugova A, Frati G, Pignatelli P, Violi F, Pastori D, Carnevale R. Lipopolysaccharide induces platelet activation in HIV patients: the role of different viral load patterns. HIV Med. 2021;22:434-444. **IF: 3.094; citations: 1**

5. **Nocella C**, Bartimoccia S, Cammisotto V, D'Amico A, Pastori D, Frati G, Sciarretta S, Rosa P, Felici C, Riggio O, Calogero A, Carnevale R, SMiLe Group. Oxidative Stress in the Pathogenesis of Antiphospholipid Syndrome: Implications for the Atherothrombotic Process. Antioxidants (Basel). 2021;10:1790. **IF: 7.675; citations: 0**

6. Carnevale R, Sciarretta S, Valenti V, di Nonno F, Calvieri C, **Nocella C**, Frati G, Forte M, d'Amati G, Pignataro MG, Severino A, Cangemi R, Arrivi A, Dominici M, Mangieri E, Gaudio C, Tanzilli G, Violi F. Low-grade endotoxaemia enhances artery thrombus growth via Toll-like receptor 4: implication for myocardial infarction. Eur Heart J. 2020;41:3156-3165. **IF: 29.983; citations: 25**

7. **Nocella C,** Cammisotto V, Bartimoccia S, Castellani V, Loffredo L, Pastori D, Pignatelli P, Sanguigni V, Violi F, Carnevale R. A novel role of MMP2 in regulating platelet NOX2 activation**.** Free Radic Biol Med. 2020;152:355-362. **IF: 7.376; citations: 7**

8. Del Ben M, **Nocella C*** (equal contribution), Loffredo L, Bartimoccia S, Cammisotto V, Mancinella M, Angelico F, Valenti V, Cavarretta E, Carnevale R, Violi F. Oleuropein-enriched chocolate by extra virgin olive oil blunts hyperglycaemia in diabetic patients: Results from a one-time 2-hour post-prandial cross over study. Clin Nutr. 2020;39:2187-2191. **IF: 7.324; citations: 8**

9. **Nocella C**, Cammisotto V, Pigozzi F, Borrione P, Fossati C, D'Amico A, Cangemi R, Peruzzi M, Gobbi G, Ettorre E, Frati G, Cavarretta E, Carnevale R; SMiLe Group. Impairment between Oxidant and Antioxidant Systems: Short- and Long-term Implications for Athletes' Health. Nutrients. 2019;11:1353. **IF: 4.546; citations: 42**

10. **Nocella C**, Biondi-Zoccai G, Sciarretta S, Peruzzi M, Pagano F, Loffredo L, Pignatelli P, Bullen C, Frati G, Carnevale R. Impact of Tobacco Versus Electronic Cigarette Smoking on Platelet Function. Am J Cardiol. 2018;122:1477-1481. **IF: 2.843; citations: 35**
11. Carnevale R*, **Nocella C*** (equal contribution), Cammisotto V, Bartimoccia S, Monticolo R, D'Amico A, Stefanini L, Pagano F, Pastori D, Cangemi R, Violi F. Antioxidant activity from extra virgin olive oil via inhibition of hydrogen peroxide-mediated NADPH-oxidase 2 activation. Nutrition. 2018;55-56:36-40. **IF: 3.591; citations: 9**

12. Carnevale R***, Nocella C*** (equal contribution), Pignatelli P, Bartimoccia S, Stefanini L, Basili S, Novo M, D'Amico A, Cammisotto V, Pastori D, Violi F. Blood hydrogen peroxide break-down activity in healthy subjects and in patients at risk of cardiovascular events. Atherosclerosis. 2018;274:29-34. **IF: 4.255; citations: 9**

13. Carnevale R***, Nocella C*** (equal contribution), Petrozza V, Cammisotto V, Pacini L, Sorrentino V, Martinelli O, Irace L, Sciarretta S, Frati G, Pastori D, Violi F. Localization of lipopolysaccharide from Escherichia Coli into human atherosclerotic plaque. Sci Rep. 2018;8:3598. **IF: 4.011; citations: 50**

14. Pastori D*, **Nocella C*** (equal contribution), Farcomeni A, Bartimoccia S, Santulli M, Vasaturo F, Carnevale R, Menichelli D, Violi F, Pignatelli P; ATHERO-AF Study Group.

Relationship of PCSK9 and Urinary Thromboxane Excretion to Cardiovascular Events in Patients With Atrial Fibrillation. J Am Coll Cardiol. 2017;70:1455-1462. **IF: 16.834; citations: 42**

15. Carnevale R, Raparelli V, **Nocella C**, Bartimoccia S, Novo M, Severino A, De Falco E, Cammisotto V, Pasquale C, Crescioli C, Scavalli AS, Riggio O, Basili S, Violi F. Gut-derived endotoxin stimulates factor VIII secretion from endothelial cells. Implications for hypercoagulability in cirrhosis. J Hepatol. 2017 Nov;67(5):950-956. **IF: 14.911; citations: 54**

16. **Nocella C**, Carnevale R, Bartimoccia S, Novo M, Cangemi R, Pastori D, Calvieri C, Pignatelli P, Violi F. Lipopolysaccharide as trigger of platelet aggregation via eicosanoid over-production. Thromb Haemost. 2017;117:1558-1570. **IF: 4.952; citations: 35**

17. Pagano F*, **Nocella C*** (equal contribution), Sciarretta S, Fianchini L, Siciliano C, Mangino G, Ibrahim M, De Falco E, Carnevale R, Chimenti I, Frati G. Cytoprotective and Antioxidant Effects of Steen Solution on Human Lung Spheroids and Human Endothelial Cells. Am J Transplant. 2017;17:1885-1894. **IF:6.493; citations: 13**

18. Raparelli V, Basili S, Carnevale R, Napoleone L, Del Ben M, **Nocella C**, Bartimoccia S, Lucidi C, Talerico G, Riggio O, Violi F. Low-grade endotoxemia and platelet activation in cirrhosis. Hepatology. 2017;65:571-581. **IF:14.079; citations: 61**

19. Carnevale R, Sciarretta S, Violi F, **Nocella C**, Loffredo L, Perri L, Peruzzi M, Marullo AG, De Falco E, Chimenti I, Valenti V, Biondi-Zoccai G, Frati G. Acute Impact of Tobacco vs Electronic Cigarette Smoking on Oxidative Stress and Vascular Function. Chest. 2016;150:606-612. **IF:6.147; citations: 184**

20. Pignatelli P, Carnevale R, Pastori D, Cangemi R, Napoleone L, Bartimoccia S, **Nocella C**, Basili S, Violi F. Immediate antioxidant and antiplatelet effect of atorvastatin via inhibition of Nox2. Circulation. 2012;126:92-103. **IF:15.202; citations: 121**

Luogo e data

Roma, 07/07/2022

Firma

(non soggetta ad autentica ai sensi dell'art. 39 del D.P.R. 28.12.2000, n. 445)