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Decreto Rettore Università di Roma “La Sapienza” n 3394/2019 del 07.11.2019

STEFANO CACCHIONE
Curriculum Vitae

Roma, December 5, 2019

Part I – General Information

Full Name	Stefano Cacchione
Date of Birth	August 14, 1960
Place of Birth	Roma
Citizenship	Italian
Permanent Address	Via Vincenzo Troya 26
Mobile Phone Number	3285654568
E-mail	Stefano.cacchione@uniroma1.it
Spoken Languages	Italian, english

Part II – Education

Type	Year	Institution	Notes (Degree, Experience,…)
University graduation	1985	Università di Roma “La Sapienza”, Degree in Biological Sciences	110/110 e lode

Part III – Appointments

IIIA – Academic Appointments

Start	End	Institution	Position
1990	2001	Department of Genetics and Molecular Biology, Università di Roma “La Sapienza”	Tecnico Laureato
2001	2010	Department of Genetics and Molecular Biology, Università di Roma “La Sapienza”	Ricercatore Universitario Bio/11
2010	To date	Researcher at the Department of Biology and Biotechnology, Università di Roma “La Sapienza”	Ricercatore Universitario BIO/11

2010	To date	PhD school of Genetics and Molecular Biology, Università di Roma "La Sapienza"	Member of the Scientific Board

IIIB – Research Appointments

Start	End	Institution	Position
1987	1989	ENI research fellowship at the Department of Genetics and Molecular Biology, Università di Roma "La Sapienza"	Research fellow, Lab directed by Prof. Maria Savino at the Department of Genetics and Molecular Biology, Università di Roma "La Sapienza"
1990	2001	Department of Genetics and Molecular Biology, Università di Roma "La Sapienza"	Graduate Technician, Lab directed by Prof. Maria Savino at the Department of Genetics and Molecular Biology, Università di Roma "La Sapienza"
1995	1995	Dept. of Biochemistry & Molecular Biology, University of Valencia, Spain	Visiting Scientist, Lab directed by Prof. Luis Franco, Dept. of Biochemistry & Molecular Biology, University of Valencia, Spain
1999	1999	Dept. of Biochemistry & Molecular Biology, University of Valencia, Spain	Visiting Scientist, Lab directed by Prof. Luis Franco, Dept. of Biochemistry & Molecular Biology, University of Valencia, Spain
2001	to date	Dept. of Genetics and Molecular Biology (2001-2010), Dept. of Biology & Biotechnology, Università di Roma "La Sapienza"	Head of laboratory

Part IV – Teaching experience

Year	Institution	Lecture/Course
AA 2002-2003	Sapienza University of Rome	Course of "Biologia Molecolare" (SSD BIO/11), Degree in Biological Sciences (Five year degree)
From AA 2002-2003 to 2008-09	Sapienza University of Rome	Course of "Tecnologie del DNA ricombinante" (SSD BIO/11) Degree in Chemistry
AA 2003-2004	Sapienza University of Rome	Course of "Laboratorio di Chimica dei Sistemi Biologici III" (SSD BIO/11), Degree in Chemistry
AA 2005-2006	Sapienza University of Rome	Course of "Biologia Molecolare" (SSD BIO/11), Degree in Chemistry
From AA 2006-2007 to 2008-09	Sapienza University of Rome	Course of "Aspetti Strutturali, Dinamici e Funzionali del Nucleosoma" (SSD BIO/11), Master Degree in Genetica e Biologia Molecolare
AA 2008-2009	Sapienza University of Rome	Course of "Biologia Molecolare" (SSD BIO/11), Degree in Chemistry

From AA 2008-2009 to 2010-11	Sapienza University of Rome	Course of "Biologia Molecolare" (SSD BIO/11), Degree in Biological Sciences
From AA 2012-2013 to 2015-16	Sapienza University of Rome	Course of "Metodologie Molecolari nella Ricerca Biomedica" (SSD BIO/11), Master Degree in Genetica e Biologia Molecolare nella Ricerca di Base e Biomedica
From AA 2016-2017 to date	Sapienza University of Rome	Course of "Molecular Methods" (SSD BIO/11), Master Degree in Genetics and Molecular Biology (in English)

Part V - Society memberships, Awards and Honors

Year	Title
1998 to date	Member of the Italian Society of Biophysics and Molecular Biology (SIBBM)

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

Year	Title	Program	Grant value
2001 to date	Various projects	Progetti di Facolta e di Ateneo (piccoli, medi, grandi) – PI, I	€ 4.000/year (on average)
2002-2003	Progettazione e sviluppo di potenziali inibitori della telomerasi mediante strategie basate sull'uso di oligonucleotidi	PRIN 2001, prot. 2001031188_002 - I	€ 23.000
2004-2005	Progettazione e sviluppo di potenziali inibitori della telomerasi mediante strategie basate sull'uso di oligonucleotidi	PRIN 2003, prot. 2003037879_007 - I	€ 40.000
2006-2007	Caratterizzazione strutturale e funzionale di strutture G-quadruplex telomeriche indotte e stabilizzate da piccole molecole organiche, potenziali inibitori della telomerasi	PRIN 2005, prot. 2005030447_005 - I	€ 40.000
2008-2010	DNA a Quadrupla Elica: Studi Strutturali e Biologici Finalizzati alla Progettazione di Nuovi Farmaci ad Attività Antitumorale o Antivirale. Differenti strutture e topologie del DNA G-quadruplex: bersagli molecolari per l'inibizione della telomerasi e modelli per aptameri anti-HIV	PRIN 2007, prot. 2007EBYL8L_004 - PI of a Research Unit	€ 56.000

2011-2013	Differenti strutture e topologie del DNA G-quadruplex: bersagli molecolari per l'inibizione della telomerasi e la regolazione di oncogeni	PRIN 2009, prot. 2009J54YAP_006	€ 49.000
2011-2013	The role of nucleosomes in the stability of human telomeres	Call 2010, Istituto Pasteur Italia - Fondazione Cenci-Bolognetti - PI	€ 60.000
2011-2013	RA (Radiations, microgravity, apoptosis): countermeasures against eye lesions endured during human space flights of long duration. Impact of space environment on chromosome instability and telomere function: damage prevention by CoQ10 and bcl-2 mRNA stabilizing oligoribonucleotides	Agenzia Spaziale Italiana (CUP F11J11000010001) - PI of a Research Unit	€ 40.000
2014-2016	The role of nucleosomes in the protection of telomeres from DNA damage response	Call 2013, Istituto Pasteur Italia - Fondazione Cenci-Bolognetti - PI	€ 60.000
2015-2017	Exploiting the Drosophila model system to investigate the function of human proteins involved in telomere maintenance.	AIRC IG 2014 Maurizio Gatti - I	€ 210.000
2018 to date	Exploiting the Drosophila model system to investigate the function of human proteins involved in telomere maintenance.	AIRC IG 2017 Maurizio Gatti - I	€ 220.000 (ys 2018-2019)

Part VII – Research Activities

Keywords	Brief Description
Nucleosome Chromatin Telomere Epigenetics	During the first years of research activity I worked in the lab directed by Prof. Maria Savino, studying the role of sequence in determining DNA curvature and flexibility and their relevance in nucleosome formation. Since 2001 I directed my own research group, maintaining the interest in the relation between structure and function. My main research activity regarded the structure of telomeric nucleosomes and their role in telomere functions. In this field, I published several papers, also in collaboration with important research groups in the telomere field, such as Daniela Rhodes, MRC Cambridge, NTU Singapore (J Mol Biol, 2001, 2006; Nucleic Acids Res 2010) and Eric Gilson, ENS Lyon, Nice University (PLoS One 2012, Nucleic Acids Res 2015). I am currently engaged in research about the epigenetic status of human telomeres in normal and cancer cells, with a particular focus on the role of the histone H3.3 (in collaboration with Annamaria Biroccio (IFO) and Erica Salvati (CNR)); the role of G-quadruplex structures at telomeres and in regulating gene transcription (in collaboration with Anita Scipioni (Sapienza University)); the structural organization of Drosophila telomeres (in collaboration with Grazia Raffa, Maurizio Gatti and Gianni Cenci (Sapienza University)); the role of the

protein TGS1 in regulating telomere elongation in human cells (in collaboration with Grazia Raffa and Maurizio Gatti (Sapienza University)); the impact of space environment on chromosome instability and telomere function (in collaboration with Matteo Lulli (University of Florence)).
I am author of 40 scientific papers, 9 as first author, 10 as last and/or corresponding author. I have been communicating research data at international meetings on telomeres and on chromatin, as poster or oral communications.
I reviewed manuscripts for several scientific journals, including Nature Communications, Nucleic Acids Research, FEBS Letters, Oncotarget, Biochimica Biophysica Acta.

Part VIII – Summary of Scientific Achievements

Product type	Number	Data Base	Start	End
Papers [international]	40#	Scopus	1986	2019
Papers [national]				
Books [scientific]				
Books [teaching]				

Scopus output is 41, but I discarded one product since it is not a paper but an "Erratum" of a previous publication

Total Impact factor	151,752
Total Citations	625
Average Citations per Product	15,63
Hirsch (H) index	15
Normalized H index*	0,45

*H index divided by the academic seniority.

Part IX– 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. Franceschin M, Nocioni D, Biroccio A, Micheli E, **Cacchione S**, Cingolani C, Venditti A, Zizza P, Bianco A, Altieri A. Design and synthesis of a new dimeric xanthone derivative: enhancement of G-quadruplex selectivity and telomere damage. (2014) *Org Biomol Chem.* 12, 9572-82. doi: 10.1039/c4ob01658k. **IF 2014 3.562; ; 3 citations.**
2. Galati A, Micheli E, Alicata C, Cicconi A, Ingegnere T, Pusch M, Giraud-Panis MJ, Gilson E, **Cacchione S***. TRF1 and TRF2 binding to telomeres is modulated by nucleosomal organization. (2015) *Nucleic Acids Research* 43, 5824-37. doi: 10.1093/nar/gkv507. **IF 2015 9.202; ; 17 citations.**
3. Burla R, Carcuro M, Raffa GD, Galati A, Raimondo D, Rizzo A, La Torre M, Micheli E, Ciapponi L, Cenci G, Cundari E, Musio A, Biroccio A, **Cacchione S**, Gatti M, Saggio I. AKTIP/Ft1, a new shelterin-interacting factor required for

telomere maintenance. (2015) *PLOS Genetics* 11, e1005167. doi: 10.1371/journal.pgen.1005167. **IF 2015 6.661; 16 citations.**

4. Cipressa F, Morciano P, Bosso G, Mannini L, Galati A, Raffa GD, **Cacchione S**, Musio A, Cenci G. A role for Separase in telomere protection. (2016) *Nat Commun.* 7:10405. doi: 10.1038/ncomms10405. **IF 2016 12.124; 11 citations.**
5. Micheli E, Altieri A, Cianni L, Cingolani C, Iachettini S, Bianco A, Leonetti C, **Cacchione S**, Biroccio A, Franceschin M, Rizzo A. Perylene and coronene derivatives binding to G-rich promoter oncogene sequences efficiently reduce their expression in cancer cells (2016) *Biochimie* 125, 223-31. doi: 10.1016/j.biochi.2016.04.008. **IF 2016 3.112; 8 citations.**
6. Sette M, D'Addabbo P, Kelly G, Cicconi A, Micheli E, **Cacchione S**, Poma A, Gargioli C, Giambra V, Frezza D. Evidence for a quadruplex structure in the polymorphic hs1.2 enhancer of the immunoglobulin heavy chain 3' regulatory regions and its conservation in mammals (2016) *Biopolymers* 105,768-78. doi: 10.1002/bip.22891. **IF 2016 1.908; 4 citations.**
7. Cicconi A, Micheli E, Vernì F, Jackson A, Gradilla AC, Cipressa F, Raimondo D, Bosso G, Wakefield JG, Ciapponi L, Cenci G, Gatti M, **Cacchione S***, Raffa GD. The Drosophila telomere-capping protein Verrocchio binds single-stranded DNA and protects telomeres from DNA damage response (2017) *Nucleic Acids Res*. 45, 3068-3085. Doi: 10.1093/nar/gkw1244. **IF 2017 11.561; 10 citations.**
8. Micheli E, Galati A, Cicconi A, **Cacchione S***. Telomere maintenance in the dynamic nuclear architecture (2017) *Chromatin Regulation and Dynamics (Chapter 13).* Anita Göndör, ed., Elsevier publ., *pp. 325-352*.
9. Di Giorgio ML, Esposito A, Maccallini P, Micheli E, Bavasso F, Gallotta I, Vernì F, Feiguin F, **Cacchione S**, McCabe BD, Di Schiavi E, Raffa GD. WDR79/TCAB1 plays a conserved role in the control of locomotion and ameliorates phenotypic defects in SMA models. (2017) *Neurobiol Dis.* 105, 42-50. doi: 10.1016/j.nbd.2017.05.005. **IF 2017 5.227; 4 citations.**
10. Franceschin M, Cianni L, Pitorri M, Micheli E, **Cacchione S**, Frezza C, Serafini M, Hu M-H, Su H, Huang Z, Gu L, Bianco A. Natural aromatic compounds as scaffolds to develop selective G-quadruplex ligands: from previously reported berberine derivatives to new palmatine analogues. (2018) *Molecules* 23, 1423. doi:10.3390/molecules23061423. **IF 2018 3.6; 5 citations.**
11. Lulli M, Cialdai F, Vignali L, Monici M, Luzzi S, Cicconi A, **Cacchione S**, Magi A, Di Gesualdo F, Balsamo M, Vukich M, Neri G, Donati A, Capaccioli S. The coenzyme Q10 (CoQ10) as countermeasure for retinal damage onboard the International Space Station: the CORM Project. (2018) *Microgravity-Science and Technology* 30, 925-931. doi.org/10.1007/s12217-018-9652-3. **IF 2018 1.973.**
12. **Cacchione S***, Biroccio A, Rizzo A. Emerging roles of telomeric chromatin alterations in cancer. (2019) *J Exp Clin Cancer Res*. 38**,** 21. doi: 10.1186/s13046-019-1030-5. **IF 2018 5.646; 3 citations.**

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Database: Scopus