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Decreto Rettore Università di Roma “La Sapienza” n 1851/2023 del 12/07/2023

LAURA STRONATI Curriculum Vitae

Rome, 25th July 2023

Part I – General Information

Full Name	LAURA STRONATI
Citizenship	ITALIAN
Spoken Languages	Italian, English

Part II – Education

Type	Year	Institution	Notes (Degree, Experience,...)
University graduation	1986	Sapienza University of Rome	Biological Sciences, full marks and honors
Post-graduate studies	1986-89	Italian National Agency for New Technologies, Energy and Sustainable Economic Development (ENEA)	Post-graduate guest
National qualification	2012	Italian Ministry of Education, Qualification University and Research (MIUR) - ANVUR	Abilitazione Scientifica Nazionale professore di II FASCIA 05/F1
	2012	Italian Ministry of Education, Qualification University and Research (MIUR) - ANVUR	Abilitazione Scientifica Nazionale professore di II FASCIA 05/E2
	2013	Italian Ministry of Education, Qualification University and Research (MIUR) - ANVUR	Abilitazione Scientifica Nazionale professore di II FASCIA 06/N1
	2016	Italian Ministry of Education, Qualification University and Research (MIUR) - ANVUR	Abilitazione Scientifica Nazionale professore di I FASCIA 05/F1

Part III – Appointments

IIIA – Academic Appointments

Start	End	Institution	Position
30/10/2015	Today	Sapienza University of Rome Department of Cellular Biotechnology and Haematology	Associate Professor (BIO/13)
01/11/2019	Today	Sapienza University of Rome Department of Molecular Medicine	Coordinator of PhD in Human Biology and Medical Genetics
09/03/2023	Today	Sapienza University of Rome Department of Molecular Medicine	Member of the Departmental Commission “Terza Missione”

IIIB – Other Appointments

Start	End	Institution	Position
16/11/2011	29/10/2015	ENEA	Senior Researcher
14/05/1990	15/11/2011	ENEA	Researcher
1989	1990	ENEA	Consultant

Part IV – Teaching experience

Year	Institution	Lecture/Course
2020-today	Sapienza University of Rome	Genetics in the graduate program of Medicine High Technology
2020-today	Sapienza University of Rome	Applied Biology in the graduate program of Dietetics (Sapienza University of Rome).
2021-today	Sapienza University of Rome	Molecular Biology at Master of II level in Gastrointestinal imaging
2016-today	Sapienza University of Rome	Cell biology in the graduate program of Biotechnology Coordinator 1 semester
2016-today	Sapienza University of Rome	Applied biology in the graduate program of Biomedical Laboratory Techniques
2020-2022	Sapienza University of Rome	Biology and Genetics in the graduate program of Medicine, course B Coordinator of the integrated course
2016-2020	Sapienza University of Rome	Cell biology in the graduate program of Biomedical Biotechnology at Sapienza
2017-2020	Sapienza University of Rome	Applied biology in the graduate program of Occupational Therapy
2011-2015	Sapienza University of Rome	Biochemistry in the graduate program of Pediatric Nursing
2012-2015	Sapienza University of Rome	Genetics in the graduate program of Technical Neurophysiopathology
2005-2015	Sapienza University of Rome	Molecular Biology at Master of II level in Pediatric Gastroenterology, Hepatology and Digestive Endoscopy
2006-2008	University of Rome Tor Vergata	Genetics in the graduate program of Techniques for the Prevention of Accidents in the Workplace
2003-2005	University of Rome Tor Vergata	Medical genetics in the graduate program of Physiotherapy

Mentoring experience

- Supervisor of Bachelor and Master's degree students in Biology and Biotechnology.
- Supervisor of PhD students.
- Supervisor of Master II Level students.
- Supervisor of research fellows.

Part V - Editorial activity

2022 to present	Associate Editor of Frontiers in Immunology
2018 to present	Associate Editor of Digestive and Liver Disease (Elsevier)

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

Year	Title	Program	Grant value
2022-24	“Creazione di un’infrastruttura di innovazione, servizio, formazione, terza missione e ricerca aperta e distribuita sul territorio, finalizzata a supportare la creazione e sviluppo di dispositivi medici” (Role: I)	Rome Technopole - Progetto Flagship 4 (Prot. RT422184581348BF)	1.416.250,00 euro
2023-25	Integrated phenotyping of the Gut-platelet-Liver AXIS in the progression of chronic liver disease. (iGAL-AXIS) (Role: I)	PRIN: PROGETTI DI RICERCA DI RILEVANTE INTERESSE NAZIONALE – Bando 2022 Prot. 2022C7ZR3W	258,041 euro
2020-22	”Immunosensori modificati con materiale nanostrutturato per la rilevazione di biomarcatori fecali di infiammazione e permeabilità intestinale: un importante progresso nella gestione di malattie ad alta prevalenza” PaGIMeter. (Role: I)	Progetto Strategico della Regione Lazio prot. n. A320-2019-28176 del 29/07/2019	252,172,69 euro
2022-24	“Multiomics and machine learning to predict response to drug therapies in pediatric Eosinophilic Esophagitis” (Role: PI)	Progetto Ateneo Grande Prot. RG1221816730E1E0	73.890,08 euro
2021-23	"Examining intestinal fibrosis in patients with Crohn's disease using organoid models" (Role: PI)	Progetto Ateneo medio Prot. RM12117A757B9F08	10.000,00 euro
2021-23	“Studio in vitro degli effetti di <i>Scutellaria Baicalensis Georgi</i> e <i>Boswellia serrata</i> sulla fibrosi intestinale” (Role: PI)	Progetto finanziato da Cadigroup Farmaceutici Srl	15.000,00 euro
2020-22	“Characterization of the esophageal tissue by single cell RNA sequencing in pediatric patients with oesinophilic esophagitis and identification of novel biomarkers to predict the early-relapse to the disease” (Role: PI)	Progetto Ateneo medio Prot. RM120172B43331E2	10.000,00 euro
2019-21	"Role of gut-liver axis in Non-Alcoholic Steatohepatitis (NASH)” (Role: PI)	Progetto Ateneo medio Prot. RM11916B8881A306	10.000,00 euro
2018-20	"Transcription factor ZNF281: a potential new player un gut and liver fibrosis" (Role: PI)	Progetto Ateneo medio Prot. RM11816433375488	33.800,00 euro
2017-19	"Effects of a RIP2 inhibitor on human colon tissue from patients	Progetto finanziato da TAKEDA Pharmaceutical Co	85.400,00 euro

	with Crohn's disease and healthy controls" (Role: PI)		
2016-18	“Gut-brain axis in autism spectrum disorders: novelties in pathogenetic mechanisms and therapeutic approaches aiming at modulating intestinal microbioma” (Role: I)	Progetto Ateneo grande Prot. RG116154C373EE88	58.600,00 euro
2012-14	“Studio, validazione e realizzazione di un nuovo kit per la diagnosi precoce delle infiammazioni intestinali tramite utilizzo della proteina HMGB1 come marcatore fecale” (Role: Co-PI)	N.Prot. FILAS-CR-2011-1162	233,49 euro
2012-15	“Studio e messa a punto di una nuova miscela di probiotici e molecole anti-infiammatorie da utilizzare nel trattamento delle malattie infiammatorie intestinali” (Role: Co-PI)	MIUR art.11 D.M. 593/2000 N.10/12	606,100 euro
2011-14	“Studio molecolare dei meccanismi patogenetici alla base dei meccanismi infiammatori intestinali” (Role: Co-PI)	FIRB-Prot. RBAP104JYK	2.257.275,2 euro
2011-12	“Small Molecule Inhibitors of Rip2 Kinase Reduce Inflammatory Responses in Human And Murine IBD” (Role: Co-PI)	Progetto finanziato da GlaxoSmithKline (GSK)	58.659,00 euro
2010-13	“Nuove acquisizioni sui meccanismi delle malattie infiammatorie intestinali e identificazione di nuovi target terapeutici” (Role: I, Unità esterna)	PRIN Prot. 2010K34C45	783.617,00
2009-11	“Molecular characterization of mucosa-associated intestinal microbiota and intestinal innate immune response: searching for novel risk factors for pediatric inflammatory bowel disease” (Role: I)	Progetto finanziato da Broad Medical Research Project (BMPR) USA	75.863 euro

Part VII – Research Activities

Keywords	Brief Description
Immunopathogenesis, chronic inflammatory disorders, inflammation, fibrosis, GI tract	I've been studying for many years the pathogenetic mechanisms underlying the onset and progression of intestinal inflammation in several pathologies of the gastrointestinal tract (GI), including Inflammatory Bowel Disease (IBD), eosinophilic esophagitis (EoE), celiac disease (CD). Particular attention has been given to proteins of innate immunity, such as NOD2, RIP2, HMGB1, with a primary role in the inflammatory response. More recently, my studies have focused

	on the role of the transcription factor ZNF281 and its interactors in promoting intestinal inflammation and fibrosis.
Biomarkers, intestinal inflammation	I've been identifying novel fecal biomarkers of inflammation as reliable and non-invasive tools for the diagnosis and disease course assessment of several GI disorders, principally IBD. Up to now, four new markers have been identified: HMGB1, Rho GDI2, Chymotrypsin C, Gelsolin; the first two are the subject of a patent application and release.
Gut microbiota, metagenomics	I've been analyzing the composition of gut-microbiota in patients with chronic disorders (IBD, metabolic syndrome, autism spectrum disorders (ASD)) by next-generation sequencing (shotgun metagenomics).
Gut-liver axis, inflammation	I have been investigating the molecular mechanisms underlying the onset of Non-Alcoholic Fatty Liver Disease (NAFLD) and its progression to steatohepatitis (NASH) in pediatric patients and the relationship between intestinal and hepatic diseases realizing the gut-liver axis.
Nonpharmacological molecules, therapy, inflammation	For several years, I have been studying the anti-inflammatory and anti-fibrotic properties of molecules of a non-pharmacological nature (glycyrrhetic acid, omega three, Boswellia serrata extract, Scutellaria baicalensis Georgi extract) to be used for the therapeutic management of chronic inflammatory disorders.

Scientific network:

- Prof. Marino Venerito, Centre for Internal Medicine, Otto-von-Guericke-University, Magdeburg, Germany.
- Prof. Marc E. Rothenberg, Division of Allergy and Immunology Cincinnati Children's Hospital Medical Center, USA.
- Member of the International IBD Genetics Consortium (<https://www.ibdgc.org/>).
- Prof. Salvatore Cucchiara, Prof. Salvatore Oliva, Prof. Marina Aloï, Dipartimento Materno Infantile e Scienze Urologiche, "Sapienza" Università di Roma.
- Prof. Vincenzo Cardinale, Dipartimento di Medicina Traslazionale e di Precisione, "Sapienza" Università di Roma.
- Prof. Franco Mazzei, Dipartimento di Chimica e Tecnologie del Farmaco, "Sapienza" Università di Roma.
- Prof. Gianfranco Silecchia Dipartimento Scienze Medico-Chirurgiche e Biotecnologie Polo Pontino, "Sapienza" Università di Roma.
- Dott.ssa Anna Negroni, Dott.ssa Roberta Vitali, Divisione Tecnologie e Metodologie per la Salvaguardia della Salute, ENEA, Roma.
- Dott.ssa Lorenza Putignani, UOC Microbiologia e Diagnostica Immunologica, Dipartimento di Medicina Diagnostica e di Laboratorio, Ospedale Pediatrico e Centro di Ricerche, IRCCS Bambino Gesù, Roma.

Part VIII – Summary of Scientific Achievements

Product type	Number	Data Base	Start	End
Papers [international]	92	https://pubmed.ncbi.nlm.nih.gov/	1997	2023
Papers [international]	91	https://www.scopus.com/	1997	2023
Papers [international] (ultimi 10 anni)	61	https://pubmed.ncbi.nlm.nih.gov/	2013	2023
Papers [international] (ultimi 10 anni)	59	https://www.scopus.com/	2013	2023
Books [scientific]	1	Springer (ISBN: 8847014719)	2009	

Total Impact factor (https://pubmed.ncbi.nlm.nih.gov/)	593,9	
Impact factor medio (https://pubmed.ncbi.nlm.nih.gov/)	6,4	
Total Impact factor	470,3	

(https://www.scopus.com/)		
Impact factor medio (https://www.scopus.com/)	5,2	
Total Impact factor (last 10 years) (https://pubmed.ncbi.nlm.nih.gov/)	415,8	
Total Impact factor (last 10 years) (https://www.scopus.com/)	330,218	
Total Citations (https://www.scopus.com/)	9.084	
Average Citations per Product (https://www.scopus.com/)	99,8	
Hirsch (H) index (https://www.scopus.com/)	35	
Normalized H index*(https://www.scopus.com/)	1,35	
First name products (last 10 years) (https://www.scopus.com/)	1	
Last name products (last 10 years) (https://www.scopus.com/)	26	
Corresponding author products (last 10 years) (https://www.scopus.com/)	16	

*H index divided by the academic seniority

Part IX - Invited speaker (last 5 years)

Invited speaker	Title: “Proteomics, metabolomics and beyond”. Corso regionale IG-IBD. La gestione delle malattie infiammatorie croniche intestinali IN LAZIO Roma, Hotel Courtyard by Marriott Rome Central Park 20 aprile 2023
Invited speaker	Title “Virus, Spillover, Pandemie. Riflessioni su COVID-19”. Congresso Thesis Percorsi interattivi e formativi Pediatrici, Napoli 11-12 Dicembre 2020
Invited speaker	Title: “La tempesta perfetta nelle IBD”. Convegno “Sapienza nella gestione delle malattie infiammatorie intestinali”, Sapienza Università di Roma, 22 febbraio 2020
Invited speaker	Title: ““Geni e ambiente nella patogenesi e nel decorso clinico delle MICI”. Convegno Gastroped - Incontri di Gastroenterologia e Nutrizione Pediatrica, Firenze 7-8 febbraio 2020
Invited speaker	Title: “Metabolomica: dal laboratorio all’ambulatorio del Pediatra” 8° Congresso Riviera di Ulisse-Orizzonti in Pediatria- Gaeta 10-12 Maggio 2019
Invited speaker	Title: “Synthesis of silver nanoparticles by lactobacillus reuteri grown in the microalgae isochrysis as a culture medium”. The 13th International Scientific Conference on Probiotics, Prebiotics, gut Microbiota and Health – IPC Annual Conference, Prague, Czech Republic, 17-20 June 2019
Invited speaker	Title: ““The development of gut microbiome-immune system axis”. 10th Probiotics, Prebiotics & New Foods, Nutraceuticals & Botanicals for Nutrition & Human and Microbiota Health Conference, Rome, September 8-10, 2019.

Part X - Patent

2014	Titolo: “Uso di HMGB1 come marcatore biologico di infiammazione”	Numero di pubblicazione: WO 2014/017466 A1	N. rilascio: 1406051	Data di rilascio: 06.02.2014
2019	Titolo: “Uso della proteina inibitore 2 della dissociazione di RHO GDP come marcatore diagnostico e prognostico delle malattie infiammatorie intestinali”	Numero di pubblicazione: WO 2019/016719 A	N. rilascio: 102017000083055	Data di rilascio: 08.10.2019

Part XI– Selected Publications (<https://www.scopus.com/>)

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) **PARP1 Activation Induces HMGB1 Secretion Promoting Intestinal Inflammation in Mice and Human Intestinal Organoids.**

Vitali R, Mancuso AB, Palone F, Pioli C, Cesi V, Negroni A, Cucchiara S, Oliva S, Carissimi C, Laudadio I, **Stronati L.** *Int J Mol Sci.* 2023 Apr 12;24(8):7096. doi: 10.3390/ijms24087096.

IF: 5,6; citations: 0

2) **Proteomic Analysis Identifies Three Reliable Biomarkers of Intestinal Inflammation in the Stools of Patients With Inflammatory Bowel Disease.**

Vitali R, Palone F, Armuzzi A, Fulci V, Negroni A, Carissimi C, Cucchiara S, **Stronati L.** *J Crohns Colitis.* 2023 Jan 27;17(1):92-102. doi: 10.1093/ecco-jcc/jjac110

IF: 8,0; citations: 4

3) **ZNF281 Promotes Colon Fibroblast Activation in TGFβ1-Induced Gut Fibrosis.**

Laudadio I, Bastianelli A, Fulci V, Carissimi C, Colantoni E, Palone F, Vitali R, Lorefice E, Cucchiara S, Negroni A, **Stronati L.** *Int J Mol Sci.* 2022 Sep 6;23(18):10261. doi: 10.3390/ijms231810261

IF: 5,6; citations: 1

4) **Liver Steatosis and Steatohepatitis Alter Bile Acid Receptors in Brain and Induce Neuroinflammation: A Contribution of Circulating Bile Acids and Blood-Brain Barrier.**

Fiaschini N, Mancuso M, Tanori M, Colantoni E, Vitali R, Diretto G, Lorenzo Rebenaque L, **Stronati L,** Negroni A. *Int J Mol Sci.* 2022 Nov 17;23(22):14254. doi: 10.3390/ijms232214254

IF: 5,6; citations: 0

5) **Colonic inflammation accelerates the progression of liver disease: A protective role of dipotassium glycyrrhizate.**

Fiaschini N, Negroni A, Palone F, Vitali R, Colantoni E, Laudadio I, Mancuso M, Cucchiara S, **Stronati L.** *Dig Liver Dis.* 2022 Aug;54(8):1084-1093. doi: 10.1016/j.dld.2021.11.015.

IF: 4,5; citations: 1

6) **Dipotassium Glycyrrhizate Improves Intestinal Mucosal Healing by Modulating Extracellular Matrix Remodeling Genes and Restoring Epithelial Barrier Functions.**

Stronati L, Palone F, Negroni A, Colantoni E, Mancuso AB, Cucchiara S, Cesi V, Isoldi S, Vitali R. *Front Immunol.* 2019 Apr 26;10:939. doi: 10.3389/fimmu.2019.00939.

IF:5,085; citations: 12

7) **Functional analysis of gut microbiota and immunoinflammation in children with autism spectrum disorders.**

Carissimi C, Laudadio I, Palone F, Fulci V, Cesi V, Cardona F, Alfonsi C, Cucchiara S, Isoldi S, **Stronati L.** *Dig Liver Dis.* 2019 Oct;51(10):1366-1374. doi: 10.1016/j.dld.2019.06.006.

IF: 3,57; citations: 33

8) **Transcription Factor ZNF281: A Novel Player in Intestinal Inflammation and Fibrosis.**

Pierdomenico M, Palone F, Cesi V, Vitali R, Mancuso AB, Cucchiara S, Oliva S, Aloï M, **Stronati L.** *Front Immunol.* 2018 Dec 11;9:2907. doi: 10.3389/fimmu.2018.02907.

IF: 4,72; citations: 17

9) **RIP3 AND pMLKL promote necroptosis-induced inflammation and alter membrane permeability in intestinal epithelial cells.**

Negrone A, Colantoni E, Pierdomenico M, Palone F, Costanzo M, Oliva S, Tiberti A, Cucchiara S, **Stronati L**. *Dig Liver Dis*. 2017 Nov;49(11):1201-1210. doi: 10.1016/j.dld.2017.08.017.
IF: 3,29; citations: 44

10) **The Identification and Pharmacological Characterization of 6-(tert-Butylsulfonyl)-N-(5-fluoro-1H-indazol-3-yl)quinolin-4-amine (GSK583), a Highly Potent and Selective Inhibitor of RIP2 Kinase.**
Haile PA, Votta BJ, Marquis RW, Bury MJ, Mehlmann JF, Singhaus R Jr, Charnley AK, Lakdawala AS, Convery MA, Lipshutz DB, Desai BM, Swift B, Capriotti CA, Berger SB, Mahajan MK, Reilly MA, Rivera EJ, Sun HH, Nagilla R, Beal AM, Finger JN, Cook MN, King BW, Ouellette MT, Totoritis RD, Pierdomenico M, Negrone A, **Stronati L**, Cucchiara S, Ziolkowski B, Vossenkämper A, MacDonald TT, Gough PJ, Bertin J, Casillas LN. *J Med Chem*. 2016 May 26;59(10):4867-80. doi: 10.1021/acs.jmedchem.6b00211.
IF: 6,26; citations: 82

11) **NOD2 Is Regulated By Mir-320 in Physiological Conditions but this Control Is Altered in Inflamed Tissues of Patients with Inflammatory Bowel Disease.**
Pierdomenico M, Cesi V, Cucchiara S, Vitali R, Prete E, Costanzo M, Aloï M, Oliva S, **Stronati L**. *Inflamm Bowel Dis*. 2016 Feb;22(2):315-26. doi: 10.1097/MIB.0000000000000659.
IF: 4,25; citations: 50

12) **Krill oil reduces intestinal inflammation by improving epithelial integrity and impairing adherent-invasive Escherichia coli pathogenicity.**
Costanzo M, Cesi V, Prete E, Negrone A, Palone F, Cucchiara S, Oliva S, Leter B, **Stronati L**. *Dig Liver Dis*. 2016 Jan;48(1):34-42. doi: 10.1016/j.dld.2015.09.012. 26493628
IF 4.088; citations: 34

13) **Dipotassium glycyrrhizate via HMGB1 or AMPK signaling suppresses oxidative stress during intestinal inflammation.**
Vitali R, Palone F, Pierdomenico M, Negrone A, Cucchiara S, Aloï M, Oliva S, **Stronati L**. *Biochem Pharmacol*. 2015 Oct 1;97(3):292-9. doi: 10.1016/j.bcp.2015.07.039.
IF: 4,56; citations: 25

14) **LPS-induced TNF- α factor mediates pro-inflammatory and pro-fibrogenic pattern in non-alcoholic fatty liver disease.**
Ceccarelli S, Panera N, Mina M, Gnani D, De Stefanis C, Crudele A, Rychlicki C, Petrini S, Bruscalupi G, Agostinelli L, **Stronati L**, Cucchiara S, Musso G, Furlanello C, Svegliati-Baroni G, Nobili V, Alisi A. *Oncotarget*. 2015 Dec 8;6(39):41434-52. doi: 10.18632/oncotarget.5163.
IF:5,008; citations: 91

15) **Role of HMGB1 as a suitable biomarker of subclinical intestinal inflammation and mucosal healing in patients with inflammatory bowel disease.**
Palone F, Vitali R, Cucchiara S, Pierdomenico M, Negrone A, Aloï M, Nuti F, Felice C, Armuzzi A, **Stronati L**. *Inflamm Bowel Dis*. 2014 Aug;20(8):1448-57. doi: 10.1097/MIB.0000000000000113.
IF: 4,46; citations: 57

16) **Necroptosis is active in children with inflammatory bowel disease and contributes to heighten intestinal inflammation.**
Pierdomenico M, Negrone A, **Stronati L**, Vitali R, Prete E, Bertin J, Gough PJ, Aloï M, Cucchiara S. *Am J Gastroenterol*. 2014 Feb;109(2):279-87. doi: 10.1038/ajg.2013.403.
IF: 10,755; citations: 150