

Allegato alla domanda di partecipazione
Curriculum formativo, didattico, scientifico e professionale del candidato

Dichiarazione sostitutiva di certificazioni

(Art. 46, D.P.R. 28 dicembre 2000 n. 445)

Dichiarazione sostitutiva dell'atto di notorietà

(da sottoscrivere davanti all'impiegato addetto o da presentare o spedire con la fotocopia di un documento di identità)

(Art. 47, D.P.R. 28 dicembre 2000 n. 445)

Estremi del bando di selezione	D.R. n 2032 del 30.12.2024
Informazioni aggiornate al	21/01/2025
Nome e Cognome	Marcello Serra

Si raccomanda di indicare con precisione tutti gli elementi valutabili ai sensi del bando di selezione (aggiungere o togliere righe secondo necessità).

Esperienza professionale

Periodo	Ente	Principali attività e responsabilità
03/2016-08/2016	Università degli studi di Cagliari, Facoltà di Biologia e Farmacia	Tutor universitario del corso di "Saggi e dosaggi farmacologici" (CdL CTF).
10/2018-01/2019	Università degli studi di Cagliari, Facoltà di Biologia e Farmacia	Tutor universitario del corso di "Farmacoterapia" (CdL CTF).
11/2019-01/2020	Università degli studi di Cagliari, Dipartimento di Scienze Biomediche	Borsista di ricerca, progetto PRIN (MIUR 2015); titolo progetto: "Identification of molecular mechanisms linking neuroinflammation and mitochondrial dysfunction to the spreading of Parkinson's Disease: perspectives for an innovative therapeutic approach". Responsabile scientifico: prof.ssa Micaela Morelli.
06/2020-03/2022	Università degli studi di Cagliari, Dipartimento di Scienze Biomediche	Assegnista di ricerca, progetto PRIN (MIUR 2017); titolo progetto: "Molecular and imaging prodromal markers of dopamine neuron degeneration in animal models of Parkinson's disease: pathophysiology and clinical perspectives". Responsabile scientifico: Prof.ssa Micaela Morelli.
03/2022-09/2022	Università degli studi di Cagliari, Facoltà di Biologia e Farmacia	Tutor didattico in "Saggi e dosaggi farmacologici" e "Experimental Pharmacology", (CdL CTF e Farmacia).
04/2022-04/2024	Università degli studi di Cagliari, Dipartimento di Scienze Biomediche	Vincitore di una borsa di ricerca per post-doctoral researcher finanziata dalla fondazione "Zardi-Gori". Titolo progetto: "Evaluation of the reversible cholinesterase inhibitor donepezil as a pharmacological therapy to counteract amphetamine-induced addictive behaviors and neurobiological alterations.".
03/2023-09/2023	Università degli studi di Cagliari, Facoltà di Biologia e Farmacia	Tutor didattico in "Saggi e dosaggi farmacologici" e "Experimental Pharmacology", (CdL CTF e Farmacia).
08/2024-01/2025	Istituto di Neuroscienze CNR sede di Cagliari	Borsista di ricerca. Titolo progetto: "Correlazione tra marcatori biochimici, di immagine e funzionali in uno studio clinico e preclinico sulla malattia di Parkinson", Responsabile scientifico: Dott.ssa Annalisa Pinna.

Istruzione, formazione (es. titoli di studio, certificazioni professionali/linguistiche/informatiche)

Data	Titolo / Principali tematiche	Ente
18/07/2016	Laurea Magistrale in Chimica e Tecnologie Farmaceutiche	Università degli studi di Cagliari, Facoltà di Biologia e Farmacia
06/2017	Cambridge English Level 1 Certificate in ESOL international (FIRST)	Anglo American School
17/02/2020	Dottorato in Neuroscienze	Università degli studi di Cagliari, Dipartimento di Scienze Biomediche
10/2021	Corso online sulle normative europee e nazionali e sulle buone pratiche nella sperimentazione animale, titolo: 'Elementi base per l'approccio dei ricercatori all'utilizzo degli animali ai fini scientifici'	Istituto Zooprofilattico Sperimentale della Lombardia e dell'Emilia Romagna
03/2024	Completamento del tirocinio di tre mesi per lo svolgimento delle funzioni di cui all'Articolo 23, comma 2, lettere a), c), d) del Decreto Legislativo n. 26/2014 per la specie Ratto	Università degli studi di Cagliari, OPBA

Publicazioni / Convegni

Autore di 28 pubblicazioni scientifiche in riviste internazionali di settore aventi impact factor (Scopus ID: 57215730295; h-index: 10; ORCID: <https://orcid.org/0000-0003-4025-7233>).

- Valeria S, Francesco T, Sonia A, Laura VP, Luca C, **Marcello S**, Roberta L, Patrizia P, Arnau BG, Roberto F, Miriam M. Sex-specific maladaptive responses to acute stress upon in utero THC exposure are mediated by dopamine. *Pharmacol Res.* 2024 Dec;210:107536. doi: 10.1016/j.phrs.2024.107536. Epub 2024 Nov 30. PMID: 39622370.
- **Serra M**, Faustini G, Brembati V, Casu MA, Pizzi M, Morelli M, Pinna A, Bellucci A. Early α -synuclein/synapsin III co-accumulation, nigrostriatal dopaminergic synaptopathy and denervation in the MPTPp mouse model of Parkinson's Disease. *Exp Neurol.* 2024 Nov 3:115040. doi: 10.1016/j.expneurol.2024.115040. Epub ahead of print. PMID: 39500391.
- Parekh P, **Serra M**, Allaw M, Perra M, Pinna A, Manconi M, Morelli M. Extract from Nasco pomace loaded in nanosomes exerts anti-inflammatory effects in the MPTP mouse model of Parkinson's disease. *Exp Neurol.* 2024 Dec;382:114958. doi: 10.1016/j.expneurol.2024.114958. Epub 2024 Sep 18. PMID: 39303846.
- **Serra M**, Marongiu J, Simola N, Costa G. Emission of 50-kHz ultrasonic vocalizations stimulated by antiparkinsonian dopaminomimetic drugs in hemiparkinsonian rats is associated with neuronal activation in subcortical regions that regulate the affective state. *Exp Neurol.* 2024 Nov;381:114939. doi: 10.1016/j.expneurol.2024.114939. Epub 2024 Aug 25. PMID: 39191345.
- **Serra M**, Simola N, Pollack AE, Costa G. Brain dysfunctions and neurotoxicity induced by psychostimulants in experimental models and humans: an overview of recent findings. *Neural Regen Res.* 2024 Sep 1;19(9):1908-1918. doi: 10.4103/1673-5374.390971. Epub 2023 Dec 15. PMID: 38227515.
- Tassan Mazzocco M*, **Serra M***, Maspero M, Coliva A, Presotto L, Casu MA, Morelli M, Moresco RM, Belloli S, Pinna A. Positive relation between dopamine neuron degeneration and metabolic connectivity disruption in the MPTP plus probenecid mouse model of Parkinson's disease. *Exp Neurol.* 2024 Jan 26;374:114704.
- **Serra M**, Costa G, Onaivi E, Simola N. Divergent Acute and Enduring Changes in 50-kHz Ultrasonic Vocalizations in Rats Repeatedly Treated With Amphetamine and Dopaminergic Antagonists: New Insights on the Role of Dopamine in Calling Behavior. *Int J Neuropsychopharmacol.* 2024 Feb 1;27(2):pyae001.
- **Serra M***, Di Maio A*, Bassareo V, Nuzzo T, Errico F, Servillo F, Capasso M, Parekh P, Li Q, Thiolat ML, Bezard E, Calabresi P, Sulzer D, Carta M, Morelli M, Usiello A. Perturbation of serine enantiomers homeostasis in the striatum of MPTP-lesioned monkeys and mice reflects the extent of dopaminergic midbrain degeneration. *Neurobiol Dis.* 2023 Aug;184:106226.
- Di Maio A, Nuzzo T, Gilio L, **Serra M**, Buttari F, Errico F, De Rosa A, Bassi MS, Morelli M, Sasabe J,

Sulzer D, Carta M, Centonze D, Usiello A. Homeostasis of serine enantiomers is disrupted in the post-mortem caudate putamen and cerebrospinal fluid of living Parkinson's disease patients. *Neurobiol Dis.* 2023 Aug;184:106203.

- Costa G*, **Serra M***, Maccioni R, Casu MA, Kasture SB, Acquas E, Morelli M. Withania somnifera influences MDMA-induced hyperthermic, cognitive, neurotoxic and neuroinflammatory effects in mice. *Biomed Pharmacother.* 2023 Mar 9;161:114475.
- Simola N, Pinna A, Frau L, Costa G, Marongiu J, Parekh P, Serra M, Morelli M. Protective Agents in Parkinson's Disease: Caffeine and Adenosine A2A Receptor Antagonists. In: *Handbook of Neurotoxicity* (Kostrzewa RM, ed), pp 1613–1635. Cham: Springer International Publishing 2022.
- Florio E*, **Serra M***, Lewis RG, Kramár E, Freidberg M, Wood M, Morelli M, Borrelli E. D2R signaling in striatal spiny neurons modulates L-DOPA induced dyskinesia. *iScience* 2022 Oct 4;25(10):105263.
- Parekh P, **Serra M**, Allaw M, Perra M, Marongiu J, Tolle G, Pinna A, Casu MA, Manconi M, Caboni P, Manzoni OJJ, Morelli M (2022). Characterization of Nasco grape pomace-loaded nutriosomes and their neuroprotective effects in the MPTP mouse model of Parkinson's disease. *Front Pharmacol.*
- Maccioni, R., **Serra, M.**, Marongiu, J., Cottiglia, F., Maccioni, E., Bassareo, V., Morelli, M., Kasture, S., Acquas, E. (2022). Effects of Docosanyl Ferulate, a constituent of *Withania somnifera*, on etha-nol- and morphine-elicited conditioned place preference and ERK phosphorylation in the accumbens shell of CD1 mice. *Psychopharmacology*. In press.
- Pinna, A., Costa, G., **Serra, M.**, Contu, L., and Morelli, M. (2021). Neuroinflammation and L-dopa-induced abnormal involuntary movements in 6-hydroxydopamine-lesioned rat model of Parkinson's disease are counteracted by combined administration of a 5-HT1A/1B receptor agonist and A2A receptor antagonist. *Neuropharmacology* 196.
- Costa, G., Caputi, F.F., **Serra, M.**, Simola, N., Rullo, L., Stamatakos, S., Sanna, F., Germain, M., Martinoli, M.G., Candeletti, S., et al. (2021). Activation of Antioxidant and Proteolytic Pathways in the Nigrostriatal Dopaminergic System After 3,4-Methylenedioxymethamphetamine Administration: Sex-Related Differences. *Front. Pharmacol.* 12.
- Costa, G., **Serra, M.**, and Simola, N. (2021). Association between novel object recognition/spontaneous alternation behavior and emission of ultrasonic vocalizations in rats: Possible relevance to the study of memory. *Brain Sci.* 11.
- Simola, N., **Serra, M.**, Marongiu, J., Costa, G., and Morelli, M. (2021). Increased emissions of 50-kHz ultrasonic vocalizations in hemiparkinsonian rats repeatedly treated with dopaminomimetic drugs: A potential preclinical model for studying the affective properties of dopamine replacement therapy in Parkinson's disease. *Prog. Neuro-Psychopharmacology Biol. Psychiatry* 108.
- **Serra, M.**, Pinna, A., Costa, G., Usiello, A., Pasqualetti, M., Avallone, L., Morelli, M., and Napolitano, F. (2021). Involvement of the protein ras homolog enriched in the striatum, rhes, in dopaminergic neurons' degeneration: Link to parkinson's disease. *Int. J. Mol. Sci.* 22.
- **Serra, M.**, Marongiu, J., and Simola, N. (2021). Lack of drug- and cue-stimulated emissions of ultrasonic vocalizations in C57BL/6J mice repeatedly treated with amphetamine. *Neurosci. Lett.* 749.
- **Serra, M.***, Pinna, A.*, Marongiu, J., and Morelli, M. (2020). Pharmacological interactions between adenosine A2A receptor antagonists and different neurotransmitter systems. *Park. Relat. Disord.* 80.
- Costa, G., Sisalli, M.J., Simola, N., Della Notte, S., Casu, M.A., **Serra, M.**, Pinna, A., Feliciello, A., Annunziato, L., Scorziello, A., et al. (2020). Gender Differences in Neurodegeneration, Neuroinflammation and Na⁺-Ca²⁺ Exchangers in the Female A53T Transgenic Mouse Model of Parkinson's Disease. *Front. Aging Neurosci.* 12.
- Lewis, R.G., **Serra, M.**, Radl, D., Gori, M., Tran, C., Michalak, S.E., Vanderwal, C.D., and Borrelli, E. (2020). Dopaminergic Control of Striatal Cholinergic Interneurons Underlies Cocaine-Induced Psychostimulation. *Cell Rep.* 31.
- Costa, G., **Serra, M.**, Marongiu, J., Morelli, M., and Simola, N. (2020). Influence of dopamine transmission in the medial prefrontal cortex and dorsal striatum on the emission of 50-kHz ultrasonic vocalizations in rats treated with amphetamine: Effects on drug-stimulated and conditioned calls. *Prog. Neuro-Psychopharmacology Biol. Psychiatry* 97.
- Costa, G., Porceddu, P.F., **Serra, M.**, Casu, M.A., Schiano, V., Napolitano, F., Pinna, A., Usiello, A., and Morelli, M. (2019). Lack of rhes increases mdma-induced neuroinflammation and dopamine neuron degeneration: Role of gender and age. *Int. J. Mol. Sci.* 20.
- Costa, G., **Serra, M.**, Pintori, N., Casu, M.A., Zanda, M.T., Murtas, D., De Luca, M.A., Simola, N., and Fattore, L. (2019). The novel psychoactive substance methoxetamine induces persistent behavioral abnormalities and neurotoxicity in rats. *Neuropharmacology* 144.

- Pinna, A., **Serra, M.**, Morelli, M., and Simola, N. (2018). Role of adenosine A2A receptors in motor control: relevance to Parkinson's disease and dyskinesia. *J. Neural Transm.* 125.
- Simola, N., Paci, E., **Serra, M.**, Costa, G., and Morelli, M. (2018). Modulation of Rat 50-kHz Ultrasonic Vocalizations by Glucocorticoid Signaling: Possible Relevance to Reward and Motivation. *Int. J. Neuropsychopharmacol.* 21.

Autore di 14 abstract presentati in convegni scientifici nazionali e internazionali:

- **Serra M.**, Mazzocco MT, Faustini G, Brembati V, Maspero M, Coliva A, Presotto L, Casu MA, Pizzi M, Morelli M, Moresco RM, Belloli S, Bellucci A, Pinna A. Early *in vivo* and *ex vivo* Biomarkers of Parkinson's Disease: Insights from the Sub-Chronic MPTPp Mouse Model. Re-treat CNR, Santa Margherita di Pula, 30 September- 3 October, 2024.
- **Serra M.**, Di Maio A, Bassareo V, Nuzzo T, Errico F, Servillo F, Capasso M, Parekh P, Li Q, Thiolat M, Bezard E, Calabresi P, Sulzer D, Carta M, Morelli M, Usiello A. Differential metabolism of serine enantiomers in the striatum of MPTP-lesioned monkeys and mice correlates with the severity of dopaminergic midbrain degeneration. FENS Forum 2024. Vienna, Austria, June 25-29, 2024.
- **Serra M.**, Di Maio A, Bassareo V, Nuzzo T, Errico F, Servillo F, Capasso M, Parekh P, Li Q, Thiolat M, Bezard E, Calabresi P, Sulzer D, Carta M, Morelli M, Usiello A. The extent of dopaminergic nigrostriatal degeneration in MPTP-lesioned monkeys and mice reflects alterations in striatal serine metabolism. 20th National Congress of the SINS held in Turin, Italy, September 14-17, 2023.
- **Serra M.**, Pathik P, Morelli M. Anti-inflammatory effects of Nasco pomace extract in the 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine (MPTP) mouse model of Parkinson's Disease. More Than Neurons, III edition. Turin, Italy, December 15-17, 2022.
- **Serra M.**, Simola N., Morelli M. Evaluation of the reversible cholinesterase inhibitor donepezil as pharmacological therapy to counteract amphetamine-induced addictive behaviours and neurobiological alterations. Addiction 2022. Villasimius, Italy, September 25-28, 2022.
- **Serra M.** Characterization of Nasco grape pomace-loaded nanosomes and their neuroprotective effects in a preclinical model of Parkinson's disease. BestMedGrape international conference. Cagliari, Italy, September 27, 2022.
- **Serra M.**, Pathik P, Marongiu J, Allaw M, Manconi M, Morelli M, Pinna A. Oral nano-delivery of nasco pomace extract exerts neuroprotective and anti-inflammatory effects in the MPTP mouse model of Parkinson's disease. IN CNR Annual Retreat 2022. Pula, Italy, September 22-24, 2022
- **Serra M.**, Pathik P, Morelli M. Oral nanodelivery of Nasco Pomace Extract exerts anti-inflammatory effects in the MPTP mouse model of Parkinson's Disease. FENS Forum 2022. Paris, France, July 9-11, 2022.
- **Serra M.**, Marongiu J., Simola N. Lack of emission of ultrasonic vocalizations in C57BL/6J mice treated with amphetamine and apomorphine. 19th National virtual congress of the Italian Society for Neuroscience (SINS). Brescia, Italy, September 9-11, 2021.
- **Serra M.**, Kramar E., Lewis R.G., Wood M., Morelli M., Borrelli E. D2 receptors on indirect medium spiny neurons modulate L-DOPA-induced dyskinesia. Annual retreat CNR; Pisa, 2-4 October 2019.
- **Serra M.**, Kramar E., Lewis R.G., Wood M., Morelli M., Borrelli E. Involvement of the dopamine D2 receptor in the modulation of L-DOPA-induced dyskinesia. 18th National congress of the Italian Society for Neuroscience (SINS). Perugia, Italy, September 26-29, 2019.
- **Serra M.**, Costa G., Contu L., Simola N., Carta M., Morelli M., Pinna A. New therapeutic strategy to prevent the onset of dyskinesia in Parkinson's disease. LIMPE-DISMOV congress. Cagliari, Italy, April 6-7, 2017.
- Morelli M., Costa G., Simola N., Carta M., **Serra M.**, Pinna A. Combined administration of the A2A receptor antagonist preladenant and the 5HT1A/1B receptor agonist eltopazine prevents L-DOPA-induced dyskinesia in a rat model of Parkinson's disease. International Congress of Parkinson's Disease and Movement Disorders. Vancouver, Canada, June 4-8, 2017.
- **Serra M.**, Simola N., Paci E., Costa G., Morelli M. Effects of corticosterone, mifepristone and metyrapone on emotional states stimulated by social contacts or amphetamine. Euron congress; Psychopharmacology from laboratory to clinic. Heraklion, Greek, October 7-11, 2017.

Altre attività scientifiche

Gennaio 2018 - aprile 2019. Research Specialist presso l'Università della California, Irvine (UCI), Dipartimento di Microbiologia e Genetica molecolare. Responsabile scientifico: Prof.ssa Emiliana Borrelli. Titolo del progetto: Involvement of striatal D2R in the regulation of L-DOPA induced dyskinesia.

Settembre 2023. Membro eletto del Youth committee della Società Italiana di Neuroscienze.

Ulteriori informazioni pertinenti

Membro delle seguenti società scientifiche: SINS (Società italiana di Neuroscienze), EURON (European Graduate School of Neuroscience), FENS (Federation of European Neuroscience Societies).

Novembre 2021. Membro del focus group R2 (assegnisti di ricerca) istituito dall'HRS4R (Human Resources Strategy for Researchers), incaricato alla valutazione, supporto ed implementazione delle politiche adottate dell'Università degli studi di Cagliari sulla base dei principi contenuti sull'European Charter for Researchers & the Code of Conduct for their recruitment.

Luogo, data e firma

Cagliari, 22/01/2025