Serena Carra, Ph.D.
Università degli Studi di Modena e Reggio Emilia
Dipartimento di Scienze Biomediche, Metaboliche e Neuroscienze
via Giuseppe Campi, 287, 41125 Modena, Italia
tel: +39 0592055265
fax: +39 0592055363
e-mail: serena.carra@unimore.it

CURRICULUM VITAE

Nome:	**Carra**
Cognome:	**Serena**
Sesso:	femminile
Data di nascita:	5 Ottobre, 1973
Luogo di Nascita:	Carpi (Modena), Italia
Nazionalità:	Italiana
Lingue conosciute:	inglese, francese, italiano
ORCID ID:	0000-0003-0939-0140
Research Gate:	https://www.researchgate.net/profile/Serena_Carra
URL per web site:	www.carralab.unimore.it

Formazione ed esperienze lavorative

Nov. 2015	**Professore Associato di Biologia Molecolare,** Università di Modena e Reggio Emilia
Luglio 2011-Ott. 2015	**Ricercatore, programma Rita Levi Montalcini** Università di Modena e Reggio Emilia
Giugno-2009-Lug. 2011	**Professore di primo livello,** University Medical Center Groningen
Giugno-2007-Mag 2009	**Post-doct,** University Medical Center Groningen
Feb.2004-Aprile 2007	**Post-doct,** supervisore Prof. Jacques Landry, Centre de recherche L'Hôtel-Dieu de Québec, Laval University, Québec, Canada.
2004	**Ph.D. in Neurobiologia,** Università di Catania, Italia.
Ott. 1999	**Specializzazione in metodi per la ricerca farmacologica**, Università di Modena.
Ott. 1998	**Laurea magistrale in Chimica e Tecnologie Farmaceutiche***,* Università di Modena, Italia, 14 ottobre 1998, 110/110 e lode.

Giugno 2024

Lista delle Pubblicazioni Peer-reviewed

1. A. Goswami, **S. Carra**. PML nuclear bodies: new players in familial amyotrophic lateral sclerosis-frontotemporal dementia? Neural Regen Res. 2024 Sep 1;19(9):1875-1876. doi: 10.4103/1673-5374.391183.
2. Moritz MNO, Dores-Silva PR, Coto ALS, Selistre-de-Araújo HS, Leitão A, Cauvi DM, De Maio A, **Carra S**, Borges JC. Human HSP70-escort protein 1 (hHep1) interacts with negatively charged lipid bilayers and cell membranes. Cell Stress Chaperones. 2023 Nov 25. doi: 10.1007/s12192-023-01394-1.
3. Martinelli I, Zucchi E, Simonini C, Gianferrari G, Bedin R, Biral C, Ghezzi A, Fini N, **Carra S**, Mandrioli J. SerpinA1 levels in amyotrophic lateral sclerosis patients: An exploratory study. Eur J Neurol. 2023 Sep 7. doi: 10.1111/ene.16054.
4. Antoniani F, Cimino M, Mediani L, Vinet J, Verde EM, Secco V, Yamoah A, Tripathi P, Aronica E, Cicardi ME, Trotti D, Sterneckert J, Goswami A, Carra S. Loss of PML nuclear bodies in familial amyotrophic lateral sclerosis-frontotemporal dementia. Cell Death Discov. 2023 Jul 15;9(1):248. doi: 10.1038/s41420-023-01547-2.
5. Choudhary D, Mediani L, Avellaneda MJ, Bjarnason S, Alberti S, Boczek EE, Heidarsson PO, Mossa A*, **Carra S***, Tans SJ*, Cecconi C*. Human Small Heat Shock Protein B8 Inhibits Protein Aggregation without Affecting the Native Folding Process. J Am Chem Soc. 2023 Jul 19;145(28):15188-15196. doi: 10.1021/jacs.3c02022.
6. Ecroyd H, Bartelt-Kirbach B, Ben-Zvi A, Bonavita R, Bushman Y, Casarotto E, Cecconi C, Chun Yu Lau W, Hibshman JD, Joosten J, Kimonis V, Klevit R, Liberek K, McMenimen KA, Miwa T, Mogk A, Montepietra D, Peters C, Rocchetti MT, Saman D, Sisto A, Secco V, Strauch A, Taguchi H, Tanguay M, Tedesco B, Toth ME, Wang Z, Benesch JLP, **Carra S**. The beauty and complexity of the small heat shock proteins: a report on the proceedings of the fourth workshop on small heat shock proteins. Cell Stress Chaperones. 2023 Jul 18. doi: 10.1007/s12192-023-01360-x.
7. Alberti S, **Carra S**. A shared fate for nuclear and cytosolic inclusions. Nat Cell Biol. 2023 May;25(5):629-630.
8. Kassouf T, Shrivastava R, Meszka I, Bailly A, Polanowska J, Trauchessec H, Mandrioli J, **Carra S**, Xirodimas DX. Targeting the NEDP1 enzyme to ameliorate ALS phenotypes through Stress Granules disassembly. Sci Adv., 2023 Mar 31;9(13):eabq7585.
9. Gönczi M, Teixeira JMC, Barrera-Vilarmau S, Mediani L, Antoniani F, Nagy T.M., Fehér K, Ráduly Z, Ambrus V, Tőzsér J, Barta E, Kövér KE, Csernoch L, **Carra S***, Fuxreiter M*. Alternatively spliced exon regulates context-dependent MEF2D higher-order assembly during myogenesis. Nat Commun. 2023 Mar 10;14(1):1329. doi: 10.1038/s41467-023-37017-7.
10. Pomella S, Cassandri M, Antoniani F, Crotti S, Mediani L, Silvestri B, Medici M, Rota R, Rosa A, and Carra S. Heat Shock Proteins: Important Helpers for the Development, Maintenance and Regeneration of Skeletal Muscles. Muscles 2023, 2(2), 187-203; https://doi.org/10.3390/muscles2020014
11. Hibshman JD, **Carra S**, Goldstein B. Tardigrade small heat shock proteins can limit desiccation-induced protein aggregation. Commun Biol. 2023 Jan 30;6(1):121. doi: 10.1038/s42003-023-04512-y.
12. Gianferrari G, Martinelli I, Simonini C, Zucchi E, Fini N, **Carra S**, Moglia C, Mandrioli J. Case report: p.Glu134del SOD1 mutation in two apparently unrelated ALS patients with mirrored phenotype. Front Neurol. 2023 Jan 4;13:1052341.

Giugno 2024

13. Ghezzi A, Martinelli I, **Carra S**, Mediani L, Zucchi E, Simonini C, Gianferrari G, Fini N, Cereda C, Gellera C, Pensato V, Mandrioli J. Missense mutation in ATXN2 gene (c.2860C > T) in an amyotrophic lateral sclerosis patient with aggressive disease phenotype. Neurol Sci. 2022 Jun 22. doi: 10.1007/s10072-022-06229-y.
14. Ferrari V, Cristofani R, Cicardi ME, Tedesco B, Crippa V, Chierichetti M, Casarotto E, Cozzi M, Mina F, Galbiati M, Piccolella M, **Carra S**, Vaccari T, Nalbandian A, Kimonis V, Fortuna TR, Pandey UB, Gagliani MC, Cortese K, Rusmini P, Poletti A. Pathogenic variants of Valosin Containing Protein induce lysosomal damage and transcriptional activation of autophagy regulators in neuronal cells. Neuropathol Appl Neurobiol. 2022 May 2:e12818. doi: 10.1111/nan.12818.
15. Garofalo M, Pandini C, Bordoni M, Jacchetti E, Diamanti L, Carelli S, Raimondi MT, Sproviero D, Crippa V, **Carra S**, Poletti A, Pansarasa O, Gagliardi S, Cereda C. RNA Molecular Signature Profiling in PBMCs of Sporadic ALS Patients: HSP70 Overexpression Is Associated with Nuclear SOD1. Cells. 2022 Jan 15;11(2):293. doi: 10.3390/cells11020293.
16. Cable J, Weber-Ban E, Clausen T, Walters KJ, Sharon M, Finley DJ, Gu Y, Hanna J, Feng Y, Martens S, Simonsen A, Hansen M, Zhang H, Goodwin JM, Reggio A, Chang C, Ge L, Schulman BA, Deshaies RJ, Dikic I, Harper JW, Wertz IE, Thomä NH, Słabicki M, Frydman J, Jakob U, David DC, Bennett EJ, Bertozzi CR, Sardana R, Eapen VV, **Carra S**. Targeted protein degradation: from small molecules to complex organelles-a Keystone Symposia report. Ann N Y Acad Sci. 2022 Jan 8. doi: 10.1111/nyas.14745.
17. Boczek EE, Fürsch J, Niedermeier ML, Jawerth L, Jahnel M, Ruer-Gruß M, Kammer KM, Heid P, Mediani L, Wang J, Yan X, Pozniakovski A, Poser I, Mateju D, Hubatsch L, **Carra S**, Alberti S, Hyman AA, Stengel F. HspB8 prevents aberrant phase transitions of FUS by chaperoning its folded RNA binding domain. Elife. 2021 Sep 6;10:e69377. doi: 10.7554/eLife.69377.
18. Tiago T, Hummel H, Morelli F, Basile V, Vinet J, Galli V, Mediani L, Antoniani F, Pomella S, Cassandri M, Garone M, Silvestri B, Cimino M, Cenacchi G, Costa R, Mouly V, Poser I, Yeger-Lotem E, Rosa A, Alberti S, Rota R, Ben-Zvi A, Sawarkar R, **Carra S**. Small heat-shock protein HSPB3 promotes myogenesis by regulating the Lamin B receptor. Cell Death Dis. 2021 May 6;12(5):452. doi: 10.1038/s41419-021-03737-1.
19. Shemesh N, Jubran J, Dror S, Simonovsky E, Basha O, Argov C, Hekselman I, Abu-Qarn M, Vinogradov E, Mauer O, Tiago T, **Carra S**, Ben-Zvi A and Yeger-Lotem E. The landscape of molecular chaperones across human tissues reveals a layered architecture of core-variable chaperones. Nat Commun. 2021 Apr 12;12(1):2180. doi: 10.1038/s41467-021-22369-9.
20. Mediani L, Antoniani F, Galli V, Vinet J, Carrà AD, Bigi I, Tripathy V, Tiago T, Cimino M, Leo G, Amen T, Kaganovich D, Cereda C, Pansarasa O, Mandrioli J, Tripathi T, Troost D, Aronica E, Buchner J, Goswami A, Sterneckert J, Alberti S, **Carra S**. Hsp90-mediated regulation of DYRK3 couples stress granule disassembly and growth via mTORC1 signaling. EMBO Rep. 2021 May 5;22(5):e51740. doi: 10.15252/embr.202051740.
21. Davis ZH, Mediani L, Antoniani F, Vinet J, Li S, Alberti S, Lu B, Holehouse AS, **Carra S***, Brandman O. Protein products of nonstop mRNA disrupt nucleolar homeostasis. Cell Stress Chaperones. 2021 May;26(3):549-561. doi: 10.1007/s12192-021-01200-w.
22. Klionsky DJ, ... **Carra S** et al. Guidelines for the use and interpretation of assays for monitoring autophagy (4th edition). Autophagy. 2021 Jan;17(1):1-382. doi: 10.1080/15548627.2020.1797280. Epub 2021 Feb 8.

Giugno 2024

23. Mediani L, Galli V, Carrà AD, Bigi I, Vinet J, Ganassi M, Antoniani F, Tiago T, Cimino M, Mateju D, Cereda C, Pansarasa O, Alberti S, Mandrioli J, **Carra S**. BAG3 and BAG6 differentially affect the dynamics of stress granules by targeting distinct subsets of defective polypeptides released from ribosomes. Cell Stress Chaperones. 2020 Jul 21. doi: 10.1007/s12192-020-01141-w.
24. Adriaenssens E, Tedesco B, Mediani L, Asselbergh B, Crippa V, Antoniani F, **Carra S***, Poletti A*, Timmerman V*. BAG3 Pro209 mutants associated with myopathy and neuropathy relocate chaperones of the CASA-complex to aggresomes. Sci Rep. 2020 May 29;10(1):8755. doi: 10.1038/s41598-020-65664-z.
25. Choudhary D, Mediani L, **Carra S**, Cecconi C. Studying heat shock proteins through single-molecule mechanical manipulation. Cell Stress Chaperones. 2020 Apr 6. doi: 10.1007/s12192-020-01096-y.
26. Alberti S, **Carra S**. Nucleolus: A Liquid Droplet Compartment for Misbehaving Proteins. Curr Biol. 2019 Oct 7;29(19):R930-R932. doi: 10.1016/j.cub.2019.08.013.
27. Mediani L, Guillén-Boixet J, Alberti S, **Carra S**. Nucleoli and Promyelocytic Leukemia Protein (PML) bodies are phase separated nuclear protein quality control compartments for misfolded proteins. Molecular & Cellular Oncology, https://doi.org/10.1080/23723556.2019.1652519
28. Cicardi ME, Cristofani R, Crippa V, Ferrari V, Tedesco B, Casarotto E, Chierichetti M, Galbiati M, Piccolella M, Messi E, **Carra S**, Pennuto M, Rusmini P, Poletti A. Autophagic and Proteasomal Mediated Removal of Mutant Androgen Receptor in Muscle Models of Spinal and Bulbar Muscular Atrophy. Front Endocrinol (Lausanne). 2019 Aug 20;10:569. doi: 10.3389/fendo.2019.00569.
29. Cristofani R, Rusmini P, Galbiati M, Cicardi ME, Ferrari V, Tedesco B, Casarotto E, Chierichetti M, Messi E, Piccolella M, **Carra S**, Crippa V, Poletti A. The Regulation of the Small Heat Shock Protein B8 in Misfolding Protein Diseases Causing Motoneuronal and Muscle Cell Death. Front Neurosci. 2019 Aug 2;13:796. doi: 10.3389/fnins.2019.00796.
30. Mediani L, Guillén-Boixet J, Vinet J, Franzmann TM, Bigi I, Mateju D, Carrà AD, Morelli FF, Tiago T, Poser I, Alberti S, **Carra S**. Defective ribosomal products challenge nuclear function by impairing nuclear condensate dynamics and immobilizing ubiquitin. EMBO J. 2019 Jul 4:e101341. doi: 10.15252/embj.2018101341.
31. Mandrioli J, Mediani L, Alberti S, **Carra S**. ALS and FTD: where RNA metabolism meets protein quality control. Semin Cell Dev Biol. 2019 Jun 26. pii: S1084-9521(18)30200-3. doi: 10.1016/j.semcdb.2019.06.003. Review.
32. Mandrioli J, Crippa V, Cereda C, Bonetto V, Zucchi E, Gessani A, Ceroni M, Chio A, D'Amico R, Monsurrò MR, Riva N, Sabatelli M, Silani V, Simone IL, Sorarù G, Provenzani A, D'Agostino VG, **Carra S***, Poletti A*. Proteostasis and ALS: protocol for a phase II, randomised, double-blind, placebo-controlled, multicentre clinical trial for colchicine in ALS (Co-ALS). BMJ Open. 2019 May 30;9(5):e028486. doi: 10.1136/bmjopen-2018-028486. *: co-last authors
33. **Carra S**, Alberti S, Benesch JLP, Boelens W, Buchner J, Carver JA, Cecconi C, Ecroyd H, Gusev N, Hightower LE, Klevit RE, Lee HO, Liberek K, Lockwood B, Poletti A, Timmerman V, Toth ME, Vierling E, Wu T, Tanguay RM. Small heat shock proteins: multifaceted proteins with important implications for life. Cell Stress Chaperones. 2019 Mar;24(2):295-308. doi: 10.1007/s12192-019-00979-z.
34. Meister-Broekema M, Freilich R, Jagadeesan C, Rauch JN, Bengoechea R, Motley WW, Kuiper EFE, Minoia M, Furtado GV, van Waarde MAWH, Bird SJ, Rebelo A, Zuchner S, Pytel P, Scherer SS, Morelli FF, **Carra S**, Weihl CC, Bergink S, Gestwicki JE, Kampinga HH.

Myopathy associated BAG3 mutations lead to protein aggregation by stalling Hsp70 networks. Nat Commun. 2018 Dec 17;9(1):5342. doi: 10.1038/s41467-018-07718-5.

35. Weihl CC, Udd B, Hanna M; ENMC workshop study group. Collaborators: Ben-Zvi A, Blaettler T, Bryson-Richardson R, **Carra S**, Dimachkie M, Findlay A, Greensmith L, Greenspan S, Hanna M, Höhfled J, Jonson PH, Kampinga HH, Larsson L, Linke W, Lynch G, Machado P, Orlando L, Richard I, Roos A, Sarparanta J, Timmerman V, Udd B, Weihl C, Zah L. 234th ENMC International Workshop: Chaperone dysfunction in muscle disease Naarden, The Netherlands, 8-10 December 2017. Neuromuscul Disord. 2018 Sep 25. pii: S0960-8966(18)31200-8. doi: 10.1016/j.nmd.2018.09.004.
36. Cicardi ME, Cristofani R, Rusmini P, Meroni M, Ferrari V, Vezzoli G, Tedesco B, Piccolella M, Messi E, Galbiati M, Boncoraglio A, **Carra S**, Crippa V, Poletti A. Tdp-25 Routing to Autophagy and Proteasome Ameliorates its Aggregation in Amyotrophic Lateral Sclerosis Target Cells. Sci Rep. 2018 Aug 17;8(1):12390. doi: 10.1038/s41598-018-29658-2.
37. Alberti S and **Carra S**. Quality Control of Membraneless Organelles. J. Mol. Biol. 2018 doi.org/10.1016/j.jmb.2018.05.013. Review.
38. Morelli FF, Verbeek S, Bertacchini J, Vinet J, Mediani L, Marmiroli S, Cenacchi G, Nasi M, De Biasi S, Brunsting JF, Lammerding J, Pegoraro E, Angelini C, Tupler R, Alberti S, **Carra S**. Aberrant compartment formation by HSPB2 mislocalizes lamin A and compromises nuclear integrity and function. Cell Rep. 2017 Aug 29;20(9):2100-2115. doi: 10.1016/j.celrep.2017.08.018.
39. Rusmini P, Cristofani R, Galbiati M, Cicardi ME, Meroni M, Ferrari V, Vezzoli G, Tedesco B, Messi E, Piccolella M, **Carra S**, Crippa V, Poletti A. The Role of the Heat Shock Protein B8 (HSPB8) in Motoneuron Diseases. Front Mol Neurosci. 2017 Jun 21;10:176. doi: 10.3389/fnmol.2017.00176. eCollection 2017. Review.
40. Cristofani R, Crippa V, Vezzoli G, Rusmini P, Galbiati M, Cicardi ME, Meroni M, Ferrari V, Tedesco B, Piccolella M, Messi E, **Carra S**, Poletti A. The small heat shock protein B8 (HSPB8) efficiently removes aggregating species of dipeptides produced in C9ORF72-related neurodegenerative diseases. Cell Stress Chaperones. 2017 Jun 12. doi: 10.1007/s12192-017-0806-9.
41. Alberti S, Mateju D, Mediani L and **Carra S**. "Granulostasis: protein quality control of RNP granules". Review. Front Mol Neurosci. 2017 Mar 27;10:84. doi: 10.3389/fnmol.2017.00084. eCollection 2017.
42. Mateju D, Franzmann TM, Patel A, Kopach A, Boczek EE, Maharana S, Lee HO, **Carra S**, Hyman AA, Alberti S. An aberrant phase transition of stress granules triggered by misfolded protein and prevented by chaperone function. EMBO J. 2017 Apr 4. pii: e201695957. doi: 10.15252/embj.201695957.
43. **Carra S**, Alberti S, Arrigo PA, Benesch JL, Benjamin IJ, Boelens W, Bartelt-Kirbach B, Brundel BJ, Buchner J, Bukau B, Carver JA, Ecroyd H, Emanuelsson C, Finet S, Golenhofen N, Goloubinoff P, Gusev N, Haslbeck M, Hightower LE, Kampinga HH, Klevit RE, Liberek K, Mchaourab HS, McMenimen KA, Poletti A, Quinlan R, Strelkov SV, Toth ME, Vierling E, Tanguay RM. The growing world of small heat shock proteins: from structure to functions. Cell Stress Chaperones. 2017 Mar 31. doi: 10.1007/s12192-017-0787-8. Review.
44. Morelli FF, Mediani L, Heldens L, Bertacchini J, Bigi I, Carrà AD, Vinet J, **Carra S**. An interaction study in mammalian cells demonstrates weak binding of HSPB2 to BAG3, which is regulated by HSPB3 and abrogated by HSPB8. Cell Stress Chaperones. 2017 Feb 8. doi: 10.1007/s12192-017-0769-x.

45. Cristofani R, Crippa V, Rusmini P, Cicardi ME, Meroni M, Giorgetti E, Sala G, Galbiati M, Piccolella M, Messi E, Ferrarese C, **Carra S**, Poletti A. Inhibition of retrograde transport modulates misfolded protein accumulation and clearance in motoneuron diseases. Autophagy. 2017 Apr 12:0. doi: 10.1080/15548627.2017.1308985.
46. Piccolella M, Crippa V, Cristofani R, Rusmini P, Galbiati M, Elena Cicardi M, Meroni M, Ferri N, Morelli FF, **Carra S**, Messi E, Poletti A. The small heat shock protein B8 (HSPB8) modulates proliferation and migration of breast cancer cells. Oncotarget. 2017 Feb 7;8(6):10400-10415. doi: 10.18632/oncotarget.14422.
47. Ganassi M, Mateju D, Bigi I, Mediani L, Poser I, Lee HO, Seguin SJ, Morelli FF, Vinet J, Leo G, Pansarasa O, Cereda C, Poletti A, Alberti S, **Carra S**. A Surveillance Function of the HSPB8-BAG3-HSP70 Chaperone Complex Ensures Stress Granule Integrity and Dynamism. Mol Cell. 2016 Sep 1;63(5):796-810. doi: 10.1016/j.molcel.2016.07.021.
48. Crippa V, Cicardi ME, Ramesh N, Seguin SJ, Ganassi M, Bigi I, Diacci C, Zelotti E, Baratashvili M, Gregory JM, Dobson CM, Cereda C, Pandey UB, Poletti A, **Carra S**. The chaperone HSPB8 reduces the accumulation of truncated TDP-43 species in cells and protects against TDP-43-mediated toxicity. Hum Mol Genet. 2016 Jul 27. pii: ddw232
49. Crippa V, D'Agostino VG, Cristofani R, Rusmini P, Cicardi ME, Messi E, Loffredo R, Pancher M, Piccolella M, Galbiati M, Meroni M, Cereda C, **Carra S**, Provenzani A, Poletti A. Transcriptional induction of the heat shock protein B8 mediates the clearance of misfolded proteins responsible for motor neuron diseases. Sci Rep. 2016 Mar 10;6:22827. doi: 10.1038/srep22827
50. Rusmini P, Crippa V, Cristofani R, Rinaldi C., Cicardi ME, Galbiati M, **Carra S**, Bilal M, Greensmith L, Poletti A The Role of the Protein Quality Control System in SBMA. J Mol Neurosci. 2016 Mar;58(3):348-64. doi: 10.1007/s12031-015-0675-6. Epub 2015 Nov 14. Review.
51. Vos MJ, **Carra S**., Kanon B., Bosveld F., Klauke K., Sibon O.C.M., Kampinga H.H. Specific protein homeostatic functions of small heat shock proteins increase lifespan, Aging Cell 2015, Dec 25. doi: 10.1111/acel.12422.
52. Poletti A and **Carra S**. Role of HSPB8 in the proteostasis network: from protein synthesis to protein degradation and beyond. Series Title: Heat Shock Proteins; book title: "The Big Book of Small Heat Shock Proteins", Eds RM Tanguay and LE Hightower, Springer International Publishing AG, ISBN: 978-3-319-16076-4.
53. Seguin SJ, Morelli FF, Vinet J, Amore D, De Biasi S, Poletti A, Rubinsztein DC, **Carra S**. Inhibition of autophagy, lysosome and VCP function impairs stress granule assembly. Cell Death Differ. 2014 Jul 18. doi: 10.1038/cdd.2014.103.
54. Minoia M, Boncoraglio A, Vinet J, Morelli FF, Brunsting JF, Poletti A, Krom S, Reits E, Kampinga HH, **Carra S**. BAG3 induces the sequestration of proteasomal clients into cytoplasmic puncta: implication for a proteasome-to-autophagy switch. Autophagy, 2014, 10.4161/auto.29409.
55. Kakkar V, Meister-Broekema M, Minoia M, **Carra S**, Kampinga HH. Barcoding Heat Shock Proteins to Human Diseases: Looking Beyond The Heat Shock Response. Disease Dis Model Mech. 2014 Apr;7(4):421-34. doi: 10.1242/dmm.014563.
56. Yang J, **Carra S**, Zhu WG, Kampinga HH. The regulation of the autophagic network and its implications for human disease. Int J Biol Sci. 2013 Dec 1;9(10):1121-33. doi: 10.7150/ijbs.6666.
57. Crippa V, Boncoraglio A, Galbiati M, Aggarwal T, Rusmini P, Giorgetti E, Cristofani R, **Carra S**, Pennuto M, Poletti A. Differential autophagy power in the spinal cord and

muscle of transgenic ALS mice. Front Cell Neurosci. 2013 Nov 26;7:234. doi: 10.3389/fncel.2013.00234.

58. Rusmini P, Crippa V, Giorgetti E, Boncoraglio A, Cristofani R, **Carra S**, Poletti A. Clearance of the mutant androgen receptor in motoneuronal models of spinal and bulbar muscular atrophy. Neurobiol Aging. 2013 Nov;34(11):2585-603. doi: 10.1016/j.neurobiolaging.2013.05.026.
59. **Carra S**, Rusmini P, Crippa V, Giorgetti E, Boncoraglio A, Cristofani R, Naujock M, Meister M, Minoia M, Kampinga HH and Poletti A. Different anti-aggregation and pro-degradative functions of the members of the mammalian sHSP family in neurological disorders. Phil. Trans. R. Soc. B, 2013 Mar 25;368(1617):20110409. doi: 10.1098/rstb.2011.0409.
60. Klionsky DJ, Abdalla FC, Abeliovich H, Abraham RT, Acevedo-Arozena A, Adeli K, Agholme L, Agnello M, Agostinis P, Aguirre-Ghiso JA, et al., Guidelines for the use and interpretation of assays for monitoring autophagy. Autophagy. 2012 Apr;8(4):445-544.
61. Boncoraglio A, Minoia M, **Carra S**.The family of mammalian small heat shock proteins (HSPBs): Implications in protein deposit diseases and motor neuropathies. Int J Biochem Cell Biol. 2012 Oct;44(10):1657-69. doi: 10.1016/j.biocel.2012.03.011.
62. **Carra S**, Crippa V, Rusmini P, Boncoraglio A, Minoia M, Giorgetti E, Kampinga HH, Poletti A. Alteration of protein folding and degradation in motor neuron diseases: Implications and protective functions of small heat shock proteins. *Prog Neurobiol*. 2012 May;97(2):83-100. doi: 10.1016/j.pneurobio.2011.09.009.
63. Seidel K, Vinet J, den Dunnen WFA, Brunt ER, Meister M, Boncoraglio A, Zijlstra MP, Boddeke HWGM, Rüb U, Kampinga HH and **Carra S**. The HSPB8-BAG3 chaperone complex is upregulated in astrocytes in the human brain affected by protein aggregation diseases. Neuropathol Appl Neurobiol. 2012 Feb;38(1):39-53. doi: 10.1111/j.1365-2990.2011.01198.x.
64. Gamerdinger M, **Carra S**, Behl C. Emerging roles of molecular chaperones and co-chaperones in selective autophagy: focus on BAG proteins. J Mol Med (Berl). 2011 Dec;89(12):1175-82. doi: 10.1007/s00109
65. Hishiya A, Salman MN, **Carra S**, Kampinga HH and Takayama S. BAG3 directly interacts with mutated alphaB-crystallin to suppress its aggregation and toxicity. *PLOS ONE*, 2011 Mar 15;6(3):e16828.
66. Vos MJ, Zijlstra MP, **Carra S**, Sibon OC, Kampinga HH. Small heat shock proteins, protein degradation and protein aggregation diseases. *Autophagy*. 2011. 7(1). 101-103
67. **Carra S**, Boncoraglio A, Kanon B, Brunsting JF, Minoia M, Rana A, Vos MJ, Seidel K, Sibon OC, Kampinga HH. Identification of the Drosophila ortholog of HSPB8: implication of HSPB8 loss of function in protein folding diseases. *J Biol Chem***.** 2010. Nov 26;285(48):37811-22.
68. Vos MJ, Zijlstra MP, Kanon B, van Waarde-Verhagen MA, Brunt ER, Oosterveld-Hut HM, **Carra S**, Sibon OC, Kampinga HH. HSPB7 is the most potent polyQ aggregation suppressor within the HSPB family of molecular chaperones. *Hum Mol Genet*. 2010. 19(23):4677-93.
69. Crippa V, **Carra S**, Rusmini P, Sau D, Bolzoni E, Bendotti C, De Biasi S, Poletti A. A role of small heat shock protein B8 (HSPB8) in the autophagic removal of misfolded proteins responsible for neurodegenerative diseases. *Autophagy.* 2010. 6(7):958-60.
70. Crippa V, Sau D, Rusmini P, Boncoraglio A, Onesto E, Bolzoni E, Galbiati M, Fontana E, Marino M, **Carra S**, Bendotti C, De Biasi S, Poletti A. The small heat shock protein B8

(HSPB8) promotes autophagic removal of misfolded proteins involved in amyotrophic lateral sclerosis (ALS). *Hum Mol Genet*. 2010. 19(17):3440-56.

71. Sun X, Fontaine JM, Hoppe AD, **Carra S**, DeGuzman C, Martin JL, Simon S, Vicart P, Welsh MJ, Landry J, Benndorf R. Abnormal interaction of motor neuropathy-associated mutant HspB8 (Hsp22) forms with the RNA helicase Ddx20 (gemin3). *Cell Stress & Chaperones*, 2010. 15(5) 567-582
72. **Carra S** and Kampinga HH. Cytoprotective function of small stress proteins in conformational disorders. In Review Book: Small Stress Proteins and Human Diseases. Chapter 1.1, 2010, Nova Publishers.
73. Fuchs M, Poirier DJ, Seguin S, Lambert H, **Carra S**, Charrette SJ, Landry J. Identification of the key structural motifs involved in HspB8/HspB6-Bag3 interaction. *Biochem J.* 2009. 425(1):245-55.
74. **Carra S**, The stress-inducible HspB8-Bag3 complex induces the eIF2alpha kinase pathway: Implications for protein quality control and viral factory degradation? *Autophagy*. 2009. 5(3):428-9.
75. **Carra S**, Brunsting JF, Lambert H, Landry J, Kampinga HH. HspB8 participates in protein quality control by a non chaperone-like mechanism that requires eIF2alpha phosphorylation. *J Biol Chem*. 2008. 284(9): 5523-32.
76. Hageman J, Vos MJ,**Carra S**, Kampinga HH. Structural and functional homologies and diversities between members of the human HspH (Hsp110), HspA (Hsp70), DnaJ (Hsp40) and HspB (Hsp27) families. *Biochemistry*, 2008. 47(27):7001-11. Review.
77. **Carra S**, Seguin SJ and Landry J. HspB8 and Bag3: a new chaperone complex targeting misfolded proteins to macroautophagy. *Autophagy*. 2008. 4(2):237-9.
78. **Carra S**, Seguin SJ, Lambert H and Landry J. HspB8 chaperone activity toward poly(Q)-containing proteins depends on its association with Bag3, a stimulator of macroautophagy. *J Biol Chem*. 2008. 283(3):1437-44.
79. **Carra S** & Landry J. Role of HspB1 and HspB8 in hereditary peripheral neuropathies: beyond the chaperone function. In Review Book: Heat shock proteins and the brain: implications for neurodegenerative diseases and neuroprotection; Chapter 7, 139-155, 2008, Editors: Asea AAA, Brown IR.
80. **Carra S** & Landry J. Small Heat Shock Proteins in Neurodegenerative Diseases. In Review Book: Heat Shock Proteins in Biology and Medicine; Section VI, Chapter 18, 331-352, 2006, Editors: Jurgen Radons and Gabriele Multhoff.
81. **Carra S**, Sivilotti M, Chavez-Zobel AT, Lambert H, Landry J. HspB8, a small heat shock protein mutated in human neuromuscular disorders, has in vivo chaperone activity in cultured cells. *Hum. Mol. Genetics*, 2005. 14(12):1659-69.
82. **Carra S**,Vinet J, Blom JM, Brunello N, Barden N, Tascedda F. Chronic treatment with desipramine and fluoxetine modulate BDNF, CaMKKalpha and CaMKKbeta mRNA levels in the hippocampus of transgenic mice expressing antisense RNA against the glucocorticoid receptor. *Neuropharmacology*. 2004. 47(7):1062-9.
83. Vinet J, **Carra S**, Blom JM, Harvey M, Brunello N, Barden N, Tascedda F. Cloning of mouse Ca^{2+}/calmodulin-dependent protein kinase kinase beta (CaMKKβ) and characterization of CaMKKβ and CaMKKα distribution in the adult mouse brain. *Mol. Brain Research*. 2003. 111:216-21.
84. Blom JM, Tascedda F, **Carra S**, Ferraguti C, Barden N, Brunello N. Altered regulation expression of CREB by chronic antidepressant administration in the brain of transgenic

mice with impaired glucocorticoid receptor function. *Neuropsychopharmacology,* 2002. 26(5):605-14.

85. Tascedda F, Blom JM, **Carra S**, Brunello N, Racagni G, Riva MA. Modulation of glutamate receptors in response to the novel antipsychotic olanzapine in rats. *Biol.Psychiatry*, 2001. 50(2):117-22.

Premi e riconoscimenti alla carriera

Premio Alberto Pio III, ROTARY INTERNATIONAL, District 2072° - Italia (8th June 2023)
The Giovanni Armenise Harvard Foundation and AirAlzh, mid-career on neurodegenerative diseases for 2022
Ferruccio Ritossa Early Career Award for 2017, The 8th international congress on stress proteins in biology and medicine, August 13-17, 2017, Turku, Finland.
Poster Prize (2017) Phase Transitions in Biology and Disease, 2-3 May 2017, Leuven, Belgio
Poster Prize (2014) da Fondazione AriSLA
Youth Travel Fund (2009) da EMBO meeting/Federation of European Biochemistry society.
Best postdoctoral poster presentation Award (2006) meeting annual della facoltà di medicine, Università Laval, Québec, Canada
Best Ph.D. oral presentation Award (2004) Hôtel Dieu de Québec, Università Laval, Québec, Canada
Travelship Award (2003) dalla Società Italiana di Farmacologia
Poster Award (2000) XXIInd Collegium Internazionale Neuro-Psychopharmacologicum, Belgio, Bruxelles
Ph.D. funding (2000-2004) borsa di dottorato di ricerca finanziata da European Commission-Structural Funds e Ministero dell'Università e della Ricerca Scientifica e Tecnologica
Travelship Award (2000) dalla Società Italiana di Farmacologia
Poster Award (1999) European Regional Congress of the World Federation of Societies of Biological Psychiatry, Firenze, Italia

Relatore orale a congressi nazionali ed internazionali, seminari/webinar

1. SUMO2/3 conjugation of TDP-43 protects against aggregation. EMBO, EMBL Symposium: Cellular mechanisms driven by phase separation. 14-17 May 2024, Heidelberg, Germany.
2. PML nuclear bodies and SUMOylation: new players in ALS-FTD? Third European C9orf72 workshop Feb 22-23 2024, Munich, Germany.
3. Small HSPs as molecular chaperones at the interface between proteins and lipids. SIBBM 2023, Frontiers in Molecular Biology. Beyond Genomics: Next Generation Molecular Biology. Bari, Italy, 26-28 June 2023
4. Small HSPs as molecular chaperones at the interface between proteins and lipids. EMBO Workshop, Protein quality control: From molecular mechanisms to therapeutic intervention, 21 – 26 May 2023, Srebreno-Dubrovnik, Croatia.
5. Condensate Colloqium Series: virtual, biweekly series organized by Rohit Pappu, Simon Alberti, Amy Gladfelter and Julia Mahamid. Losing the GRIP on DRiP? Implications for condensate dynamics upon stress and in human disease. 7 February 2023.

6. MLOpathy, Membrane-less organelle pathology in ALS: identification of causes and rescuing factors. AriSLA Meeting 2022, Research, development and innovation in ALS. 3-4 November 2022, The Westin Palace, Milan, Italy.
7. Losing the GRIP on DRiP? Implication for Amyotrophic Lateral Sclerosis and Frontotemporal degeneration. Amyotrophic lateral sclerosis – from mechanisms to novel therapeutics. Organizers: Tanya Levin and Prof. Dr. Jared Sterneckert. Casa Santo nome di Gesù, October 27-28 2022, Florence, Italy.
8. Protein quality control in biomolecular condensates: where protein disorder and chaperones meet to keep proteostasis. Implications for Amyotrophic Lateral Sclerosis and Frontotemporal degeneration. Jacques Monod Conference "Protein phase transitions in ageing and age-related diseases: from atomic resolution to cellular solutions" - October 17-21, 2022, CNRS, Station Biologique de Roscoff, France.
9. Small heat shock proteins act on the α-synuclein lipid-induced aggregation process through multiple mechanisms. Invited speaker. Physics of Biomolecules: Structure, Dynamics and Function, Sept. 5-8, Bressanone, Italy.
10. ALS and FTD: Where RNA metabolism meets protein quality control. Invited seminar. Neurobiology, Experimental Neurology, VIB-KU Leuven, Center for Brain & Disease Research, Leuven, Belgium, 06 May 2022.
11. Misfolding proteico e protein quality control: implicazioni per la SLA. Workshop ALS 2022. Camera di Commercio di Modena, 08 April 2022.
12. Phase transitions and biomedical applications. Anhydrobiosis – cheating death and telling the tale, 21 – 23 March 2022.
13. Condensate targeting as a strategy to prevent irreversible protein aggregation: implications for Amyotrophic Lateral Sclerosis and Frontotemporal degeneration. Webinar for PARIS-DIDEROT CNRS, 9 March 2022.
14. Condensate targeting as a strategy to prevent irreversible protein aggregation: implications for ALS and FTD. I PhasAGE International Conference "Phase Transitions in Aging and Age-related Diseases", 12-14 October 2021.
15. Condensate targeting as a strategy to prevent irreversible protein aggregation: implications for ALS and FTD. FASEB Conference on Protein Aggregation: Function, Dysfunction, and Disease, June 23-25, 2021.
16. Hsp90-mediated regulation of DYRK3 couples stress granule disassembly to stress adaptation and cell growth: implications for Amyotrophic Lateral Sclerosis. Targeted Protein Degradation: From Small Molecules to Complex Organelles". Keystone eSymposia, 7-8 June 2021.
17. Hsp90-mediated regulation of DYRK3 couples stress granule disassembly and growth via mTORC1 signaling: implications for ALS/FTD. Rapid Fire Presentation, Virtual ENCALS Meeting 12-14 May 2021.
18. Protein quality control of biomolecular condensates: implications for ALS and FTD. AriSLA Webinar 9 April 2021.
19. Protein quality control of biomolecular condensates: implications for Amyotrophic Lateral Sclerosis and Frontotemporal degeneration. Virtual 31st International Symposium on Amyotrophic Lateral Sclerosis / Motor Neuron Disease, Dec 9 - 11 2020.
20. Protein quality control of membraneless organelles: implications for the stress response and age-related diseases, Cellular and protein homeostasis webinars, Jun 17, 2020 09:30 AM Zurich - Organisers: P. De Los Rios, P. Goloubinoff, A. Barducci and N. Nillegoda.
21. Quality control of membraneless organelles, Webinars in: "Molecular and cellular mechanism of DISEASES", 15 May 2020, University La Sapienza, Rome, Italy.

22. Aberrant phase transitions and neurodegenerative diseases. 20 February 2020, seminar, European Research Institute for the Biology of Ageing, ERIBA, Groningen, The Netherlands.
23. Implication of derailed phase separation and molecular chaperones in the stress response and in age-related neurodegenerative diseases, Physiscs of biomolecules: structure, dynamics and functions, 5 - 8 February 2020, Bressanone, Italy
24. Deregulated phase transitions as driver of cellular aging and disease. 14 January 2020, seminar, University of Lausanne, Switzerland.
25. Aberrant phase transitions and neurodegenerative diseases. 5 December 2019, seminar, CRMB, Montpellier, France.
26. Deregulated phase transitions as driver of cellular aging and disease. 12 September 2019, ICGEB - International Centre for Genetic Engineering and Biotechnology, Trieste, Italy.
27. Protein quality control of membraneless organelles. 06 September 2019, Department of Biomedical Sciences, University of Padova, Italy.
28. Symposium chair and speaker, Symposium title: Chaperone networks and signaling pathways in disease and aging, *23rd ESN Biennial Meeting - 7th Conference on Molecular Mechanisms of Regulation in the Nervous System*, September 1-4, 2019, Milan, Italy.
29. Protein Quality Control of Membraneless Organelles: Implications in ALS and Neurodegenerative Diseases. Gordon Research Conference, Amyotrophic Lateral Sclerosis (ALS) and Related Motor Neuron Diseases, Mechanisms of Motor Neuron Degeneration and Therapeutic Intervention, Mount Snow, US, July 21 - 26, 2019.
30. Newly synthesized aberrant proteins impair nuclear condensate dynamics: implications for nuclear function and cell viability. *"Cell Death and Disease"*, Italian-German Center For European Excellence, June 26-29, 2019, Villa Vigoni, Como, Italy
31. Defective ribosomal products challenge nuclear function by impairing nuclear condensate dynamics. *Protein quality control: From mechanisms to disease*, 28 April - 3 May 2019, Costa de la Calma, Mallorca, Spain.
32. Implication of derailed phase separation and molecular chaperones in the stress response and in age-related neurodegenerative diseases. CABIMER Andalusian Center for Molecular Biology and Regenerative Medicine, University of Seville, 01 March 2019, Seville, Spain.
33. Implication of derailed phase separation and molecular chaperones in the stress response and in age-related neurodegenerative diseases. Seminar for PhD School in Genetic and Molecular Biology, University "La Sapienza" Rome, 14 December 2018, Rome Italy.
34. Implication of deregulated proteostasis and phase separation in age-related neurodegenerative diseases. Seminar for PhD School in Biomedical Science and Biotechnology, University of Udine, 6 December 2018, Udine Italy.
35. Small Heat shock proteins and their implication in age-related neurodegenerative diseases. *First Autumn School on Proteostasis*, 12-16 November 2018, Medils, Split, Croatia.
36. Implication of derailed phase separation and molecular chaperones in the stress response and in age-related neurodegenerative diseases. CIBIO, University of Trento, 16 October 2018, Trento, Italy.

Giugno 2024

37. VCP AND AUTOPHAGOLYSOSOMAL PATHWAY: GUARDIANS OF PROTEOSTASIS AND STRESS GRANULE DYNAMICS. UNRAVELING THEIR IMPLICATIONS IN ALS. *Focus SLA*, Palazzo della Meridiana, 27-29 September, Genova, Italy.
38. HSPB2 and HSPB3 affect lamin organization with consequences on nuclear morphology and function: implications in neuromuscular diseases. *3rd CSSI Workshop on Small Heat Shock Proteins*, 26-29 August 2018, Quebec, Canada.
39. HSPB2 forms nuclear compartments that affect lamin A and compromise nuclear function: implications in neuromuscular diseases. *SIBBM, Italian Society of Biophysics and Molecular Biology, Frontiers in Molecular Biology*, La Sapienza University, 20-22 June, 2018, Rome, Italy.
40. HSPB2 forms nuclear compartments that affect lamin A and compromise nuclear function. *Cell Death and Disease Meeting*, Villa Vigoni, Italian-German Center For European Excellence, 27-30 June, 2018, Villa Vigoni, Menaggio (Como), Italy
41. HSPB2 forms nuclear compartments that affect lamin A and compromise nuclear function. *EMBO | EMBL Symposium: Cellular Mechanisms Driven by Liquid Phase Separation*, 14-17 May 2018, Heidelberg, Germany.
42. Protein Quality Control of stress Granules, *Cold Spring Harbor Meeting: Protein Homeostasis in Health & Disease*, April 17-21, 2018, USA.
43. Implication of derailed phase separation and molecular chaperones in the stress response and in age-related neurodegenerative diseases. 11th January 2018, invited seminar at *Italian Institute of Technology*, Genoa, Italy.
44. The HSPB8-BAG3-HSP70 complex: implication in protein homeostasis and neurodegenarative diseases. 12th December 2017, invited seminar at *TIGEM*, Pozzuoli, Naples, Italy
45. New functions of chaperones in disease. *234th ENMC (European NeuroMuscular Centre) workshop on Chaperone*, 8-10 December 2017, Naarden, The Netherlands
46. Granulostasis: protein quality control of ribonucleoprotein particles. *XVII Congress Italian Society for Neurosciences (SINS)* 1-4 October 2017, Lacco Ameno, Ischia, Naples, Italy
47. The everyday life of HSPB8: buffering and clearing to avoid irreversible protein aggregation. *The 8th international congress on stress proteins in biology and medicine*, August 13-17, 2017, Turku, Finland
48. Granulostasis: protein quality control of stress granules. *Meeting on Cell Death and Disease*, 14-17 June 2017, Villa Vigoni, Italy
49. Aberrant compartment formation by HSPB2 mislocalizes lamin A and compromises nuclear integrity and function. *EMBO Conference, Protein Quality Control: Success and failure in health and disease*, 14th to 19th May 2017, Sant Feliu de Guixols, Girona, Spain.
50. Molecular chaperones and protein aggregation: from cellular function to disease. *Telethon, THE SCIENTIFIC CONVENTION, Riva del Garda*, *Trento,* 13-15 March 2017.
51. Granulostasis: A Surveillance Function of the HSPB8-BAG3-HSP70 Chaperone Complex That Maintains Stress Granule Integrity and Dynamism. *The Eighth International Symposium on Heat Shock Proteins in Biology and Medicine, Hilton Old Town Alexandria*, VA, USA, October 29 - November 2, 2016.
52. Unexpected properties of HSPB2 and HSPB3: implications in neuromuscular diseases. *The small HSP World, Second International Workshop of Cell Stress Society International (CSSi)*, 12-15 October 2016 – Bertinoro, Italy.

53. The HSPB8-BAG3-HSPA1A complex ensures stress granule integrity and dynamism. *Protein Homeostasis in Health and Disease*, *Cold Spring Harbor*, April 18-22, 2016, New York, USA.
54. Impairment of the Protein Quality Control System Affects Stress Granule Response and Dynamics. *VIIth Cell Stress Society International Congress on Stress and Health*, September 15-19, 2015 Huangshan, PRC.
55. Characterization of the interplay between the protein quality control and the stress granule response: implication in neurodegenerative diseases. Invited speaker at: VI Meeting on the Molecular Mechanisms of Neurodegeneration, May 28th-30th, 2015, Milan, Italy.
56. Investigating the interplay between the protein quality control system, molecular chaperones and stress granules: from cell stress response to disease. Invited speaker at: EMBO Workshop "Macromolecular assemblies at the crossroads of cell stress and function", 31 May - 4 June, 2015, Jerusalem, Israel.
57. Inhibition of autophagy, lysosome and VCP alters stress granule morphology and composition. *EMBO Workshop on the Regulation of Aging and Proteostasis*, Israel February 15-20, 2015.
58. Upregulation of HSPB8 as potential therapeutic approach in Amyotrophic Lateral Sclerosis. The small HSP World, *A Workshop of Cell Stress Society International (CSSI)*, Québec, October 2-5, 2014.
59. Inhibition of autophagy, lysosome and VCP function impairs stress granule assembly. *MND Satellite FENS Meeting*, Milano 3-4 July 2014.
60. Inhibition of autophagy, lysosome and VCP function impairs stress granule assembly: implications in neurodegenerative diseases. *Rijks University Groningen*, University Medical Center Groningen, The Netherlands, 01 july 2014.
61. Implications of the HSPB8-BAG3 complex in neurodegenerative and neuromuscular disorders. *Rijks University Groningen*, University Medical Center Groningen, The Netherlands, 17 may 2011.
62. HSPB8 participates in protein quality control by a non-chaperone like mechanis that requires eIF2a phosphorylation. *EMBO meeting*, Dubrovnick, Croazia, 23-28 May 2009.
63. HspB8/Bag3: a new chaperone complex involved in protein quality control. *8th Dutch Chaperone Meeting*, VU Medical Center, Amsterdam, The Netherlands, 22 February 2008.
64. The new chaperone complex HspB8/Bag3 and its implication in neurodegenerative disorders. *Rijks University Groningen*, University Medical Center Groningen, Groningen, The Netherlands, 22 January 2008.
65. A new chaperone complex involved in the degradation of mutated huntingtin protein by macroautophagy. *Universita' degli Studi di Modena e Reggio Emilia*, Dipartimento di Scienze Biochimiche. Modena, Italy, April 2006.
66. Effect of the small heat shock protein HspB8 on mutated huntingtin aggregation. *Universita' degli Studi di Milano*, Centro di Neuropsicofarmacologia. Milano, July 2005.
67. In vivo chaperone activity of the small heat shock protein HspB8 towards polyglutamine proteins. *Universita' degli Studi di Modena e Reggio Emilia*, Dipartimento di Scienze Farmaceutiche. Modena, Italy, December 2004.

Organizzazione di congressi scientifici internationali

Giugno 2024

1. *Fourth International Workshop of Cell Stress Society International (CSSI)*, 17-18 November 2022 – online event; organizers: Prof. Heath Ecroyd, Prof. Serena Carra and Prof. Justin Benesch
2. *Workshop ALS 2022: dialogue between preclinical and clinical research.* Camera di Commercio di Modena, 08 April 2022. Organizers: Prof. Jessica Mandrioli and Prof. Serena Carra.
3. *3rd sHSP International Workshop of Cell Stress Society International (CSSi)*, 26-29 August 2018 – Québec, Canada; organizers: Prof. Robert M. Tanguay, Prof. Serena Carra and Prof. Lawrence Hightower
4. *The small HSP World, Second International Workshop of Cell Stress Society International (CSSi)*, 12-15 October 2016 – Bertinoro, Italy; organizers: Prof. Serena Carra, Prof. Robert M. Tanguay and Prof. Lawrence Hightower

Fondi per la ricerca scientifica, progetti attivi

1. **PRIN** (2023-2025); PI: Carra S.; Partner: Rosa A. HSPB3: understanding its role in the pathophysiology of the neuromuscular system and testing its druggability for future therapeutic purposes.
2. **Telethon** (2023-2025); PI: Carra S. Boosting HSPB3 to prevent neuromuscular degeneration in peripheral neuropathies
3. **Armenise-Harvard & AirAlzh** (2023-2025); PI: Carra S. SUMO2/3 as a solubility tag to prevent the misfolding and aggregation of key RNA-binding proteins associated with amyotrophic lateral sclerosis (ALS) and Frontotemporal dementia (FTD).
4. **AriSLA** (2023-2026); PI: Carra S; co-PI: Rosa A.; Buratti E. SUMOsolvable.
5. **MDA** (2022-2025); PI: Carra S; co-PI: Rosa A. HSPB3: a promising candidate for the maintenance of the neuromuscular system.

Fondi per la ricerca scientifica, progetti conclusi

1. **AFM** (2021-2022); PI: Carra S; co-PI: Rosa A. Unraveling HSPB3 physiological functions to understand its implication in neuromuscular diseases
2. **FAR2020** (2021-2023); PI: Carra S; co-PI: Vilella A. Targeting the lipid and protein homeostasis systems with Trodusquemine to fight Alzheimer's Disease
3. **PRIN** (2019-2022); PI: Poletti A; Partners: Carra S; Bonanno G.; D'Agostino V.; Pennuto M. THE INTERPLAY BETWEEN THE "RNA/PROTEIN QUALITY CONTROL SYSTEM" AND "EXOSOMES" AS A SPREADING MECHANISM IN AMYOTROPHIC LATERAL SCLEROSIS [EX_ALS]
4. **AIFA** (2017-2020); Italian PI: Mandrioli J; Partners: Carra S.; D'Amico R.; Chiò A.; Silani V.; Ceroni M.; Simone I.L.; Riva N.; Sabatelli M.; Monsurrò M.R.; Sorarù G.; Poletti A.; Cereda C.; Bonetto V. "Colchicine for Amyotrophic Lateral Sclerosis: a phase II, randomized, double blind, placebo controlled, multicenter clinical trial"
5. **AriSLA** (2019-2022); PI: Carra S; Partners: Poletti A.; Pansarasa O. "Membrane-less organelle pathology in ALS: identification of causes and rescuing factors"
6. **Ministero degli Affari Esteri e della Cooperazione Internazionale** (Nov. 2017- Apr. 2020); Italian PI: Carra S; Israeli PI : Ben-Zvi A. Tissue-specific protein folding environment can impact metabolic disease etiology

Giugno 2024

7. **PRIN** (February 2017 – February 2020); Coordinator: Poletti A.; partners: Carra S; Carrì MT; Cozzolino M; Crosio C; Ratti A; Chiò A. "From RNA to Protein toxicity in motorneuron diseases"
8. **JPND** (April 2016-March 2019); Coordinator: Alberti S. (Germany); partners: Carra S; Poletti A; Kaganovich D.; Aguzzi A.; Sterneckert J.; Dantuma N. "Stress granules and proteostasis in motor neurons: towards a mechanistic understanding of ALS"
9. **FAR 2016 University of Modena** (March 2017-Feb. 2019); PI : Carra S; partner : Cecconi C. "Biochemical and biophysical characterization of disease-linked mutants of HSPB8 and BAG3: unravelling their impact on protein-RNA homeostasis."
10. **Ministero degli Affari Esteri e della Cooperazione Internazionale** (Oct. 2016-Sept. 2018); Italian PI: Carra S; Israeli PI : Kaganovich D. "Dynamics and function of stress granules and other protein-RNA assemblies in Amyotrophic Lateral Sclerosis/Dissolve_ALS"
11. **Telethon Research Grant** (Nov. 2015-Oct. 2018); PI : Carra S. "The HSPB2-HSPB3 complex: unraveling new functions that affect nuclear homeostasis and their implication in neuromuscular and muscular diseases."
12. **Cariplo research grant** (June 2015- May 2018); PI: Poletti A.; partners: Carra S; Bicciato S.; Quattrone A.; Provenzano A. "RAN-translation of normal and expanded nucleotide repeat containing transcripts to neurotoxic polypetides in neurodegenerative diseases."
13. **AriSLA Research Grant** (April 2015- March 2018); PI: Carra S; partners: Poletti A., Mandrioli J., Cereda C. "VCP AND AUTOPHAGOLYSOSOMAL PATHWAY: GUARDIANS OF PROTEOSTASIS AND STRESS GRANULE DYNAMICS. UNRAVELING THEIR IMPLICATIONS IN ALS."
14. **Association française contre les myopathies (AFM): Research Grant** (October 2012- December 2015); PI: Carra S. "Identification of HSPB3 mutations in myopathic patients: understanding the mechanisms of disease."
15. **AriSLA Research Grant** (March 2012- February 2015); PI: Poletti A.; partner: Carra S. "ALS_HSPB8"
16. **Telethon Exploratory Project** (November 2012- October 2013); PI: Carra S. "Characterization of the R7S mutation of Heat Shock Protein HSPB3 and of two novel mutations found in patients suffering of congenital myopathy: understanding the mechanisms leading to disease."
17. **MIUR: Rita Levi Montalcini grant** (July 2011- July 2014).
18. **Association française contre les myopathies (AFM): Trampoline Grant** (1st October 2010-30th September 2011); PI: Carra S.
19. **Prinses Beatrix Fonds/Dutch Huntington Association** (1st September 2010- 31st August 2014); PI: Carra S; partners: Kampinga H.H.; Sibon O.C.M.
20. **Marie Curie International Reintegration Grant** (15th May 2009- 14th May 2012)
21. **Young Investigator Award** (1st January 2008- 31st December 2009), National Ataxia Foundation, USA
22. **Ministero della Salute**, Bando 2011-2012, Progetti di Ricerca Giovani Ricercatori (November 2014- November 2017); PI: Crippa V.; partner: Carra S. "Protective role of HSPB8 in motor neuron diseases (MNDs)"

Referente esterno per giornali scientifici ed agenzie di finanziamento, membro di comitati editoriali

Giugno 2024

Referente esterno per giornali scientifici: BBA - Molecular Cell Research, Biomolecular Concepts, Cell Death and Differentiation, Cell Death and Disease, Cell Reports, Cell Stress and Chaperones, Essays in Biochemistry, Expert Review of Proteomics, Frontiers, Journal of Molecular Neuroscience, Heliyon, Mechanisms of Ageing and Development, Nature Communication, Neuropathology and Applied Neurobiology, Neuroscience, Plos One, Redox, TIBS, Trends in Pharmacological Sciences, The International Journal of Biochemistry & Cell Biology, Neurobiology of Aging, The Journal of Cell Biology.
Referente esterno per agenzie di finanziamento: Ataxia UK, DFG, Deutsche Forschungsgemeinschaft, ERC 2020 Grant Calls, the Portuguese Foundation for Science and Technology, Israel Science Foundation, Czech Science Foundation, FWF Austrian Science Fund.
Membro di comitati editoriali:
da Settembre 2021 - Essays in Biochemistry
dal 2019 - Frontiers in Molecular Neuroscience

Collaboratori

Prof. Simon Alberti	Biotechnology Center (BIOTEC), Center for Molecular and Cellular Bioengineering (CMCB), Technische Universität Dresden, Germany
Prof. Michele Vendruscolo	Department of Chemistry, University of Cambridge, UK
Prof. Alessandro Rosa	Department of Biology and Biotechnology Charles Darwin, Sapienza University of Rome, Italy
Prof. Monika Fuxreiter	Department of Biomedical Sciences, Department of Physics and Astronomy, University of Padova, Italy
Prof. Emanuele Buratti	International Centre for Genetic Engineering and Biotechnology (ICGEB), Trieste, Italy
Prof. Ciro Cecconi	Department of Physics, University of Modena and Reggio Emilia, Italy
Prof. Anand Goswami	Institute of Neuropathology, Uniklinik RWTH Aachen, Germany
Prof. Jessica Mandrioli	Department of Neurosciences, St. Agostino Estense Hospital, Azienda Ospedaliero Universitaria di Modena, Modena, Italy
Prof. Jared Sterneckert	Center for regenerative therapies Dresden (CRTD), Center for Molecular and Cellular Bioengineering, TU Dresden
Prof. Angelo Poletti	Department of Pharmacological and Biomolecular Sciences, Center of Excellence on Neurodegenerative Diseases, University of Milan, Italy

Giugno 2024