PERSONAL INFORMATION **Graziella Messina**
ORCID ID https:// orcid.org/0000-0001-8189-0727

POSITION Full Professor of Histology

WORK EXPERIENCE

June 2019-present **Full professor** (SSD BIO/17- Histology) at the *Department of BioSciences, University of Milan, Italy*.

2014-May 2019 **Associate Professor** (SSD BIO/17- Histology) at the *Department of BioSciences, University of Milan, Italy*.

2008-2014 **Assistant Professor** (RU, SSD BIO/17- Histology) and Principal Investigator at the *Department of BioSciences, University of Milan, Italy*.

2006-2008 **Post-Doctoral fellowship** (from MDA, Muscular Dystrophy Association) at the San Raffaele Institute- Milan- Italy

2006-2007 **Visiting Scientist** at the Pasteur Institute (Paris) in Margaret Buckingham's lab and at the INSERM- Groupe Myologie (Paris) in David Sassoon's lab

2004-2006 **Post-Doctoral fellowship** (Assegno di Ricerca di tipo A) from *"Sapienza" University of Rome*- Italy for a research developed *at the San Raffaele Scientific Institute*, Milan, Italy. Supervisor: *Prof. Giulio Cossu.*

EDUCATION AND TRAINING

2004 PhD in Cellular and Developmental Biology, *"Sapienza" University of Rome- Italy*

1999 Degree in Biology "magna cum laude", *"Sapienza" University of Rome- Italy*

PERSONAL SKILLS

Mother tongue Italian

Other languages English; French

ADDITIONAL INFORMATION

Pubblications

Total n. of publications: 50
- **of which in the last 10 years: 30**

Book chapter: 1
N. of publications as First author: 6
N. of publications as Senior and corresponding author: 16
h-index: 25
Sum of Times cited: 2869

High profile Journals in which I have published: ***Cell, Nature Cell Biology, Developmental Cell, Genes and Development, J Clinical Investigation, Nature Communications, Cell Reports, Trends in Cell Biology***

1. Angelini, G., Capra, E., Rossi, F., ...Bonfanti, C., **Messina, G***. MEK-inhibitors decrease Nfix in muscular dystrophy but induce unexpected calcifications, partially rescued with Cyanidin diet *iScience,* 2024, 27(1), 108696

2. Landi S. … **Messina G.** and Barbuti A.
Lack of the transcription factor Nfix causes tachycardia in mice sinus node and rats neonatal cardiomyocytes. *ACTA PHYSIOLOGICA,* 2023 doi: 10.1111/apha.13981

3. Secomandi et al., A chromosome-level reference genome and pangenome for barn swallow population genomics
Cell Reports Jan 2023
https://doi.org/10.1016/j.celrep.2023.111992

4. Cossu G., Tonlorenzi R., Brunelli S., Sampaolesi M., **Messina G***., et al
Mesoangioblasts at 20: from the embryonic aorta to the patient bed
Frontiers in Genetics Jan 2023
doi: 10.3389/fgene.2022.105611

5. Saclier M, Angelini G, Bonfanti C, Mura G, Temponi G and **Messina G.**
Selective ablation of Nfix in macrophages attenuates muscular dystrophies by inhibiting fibro-adipogenic progenitor-dependent fibrosis.
Journal of Pathology Mar, 2022

6. Angelini G, Mura G, **Messina G**.
Therapeutic approaches to preserve the musculature in Duchenne Muscular Dystrophy: The importance of the secondary therapies.
Exp Cell Res. 2022 Jan 15;410(2):112968. doi: 10.1016/j.yexcr.2021.112968.
IF: 3.9

7. Giovanna Rigillo, Valentina Basile, Silvia Belluti, Mirko Ronzio, Elisabetta Sauta, Alessia Ciarrocchi,Lucia Latella, Marielle Saclier, Susanna Molinari, Antonio Vallarola, **Graziella Messina,**Roberto Mantovani, Diletta Dolfini and Carol Imbriano
"The transcription factor NF-Y participates to stemcell fate decision and regeneration in adult skeletal muscle "
Nature Communications, (2021)12: doi.org/10.1038/s41467-021-2629
IF: 14.5

8. Theret Marine, Saclier Marielle, **Messina Graziella** and Fabio Rossi
"Macrophages in Skeletal Muscle Dystrophies, An Entangled Partner"
Journal of Neuromuscular Diseases (2021) Sept doi:10.3233/JND-210737
IF: 4.3

9. Marco Maspero, Ettore Gilardoni, Chiara Bonfanti, **Graziella Messina**, Luca Regazzoni, Marco De Amici, Marina Carini, Giancarlo Aldini, Clelia Dallanoce
"Synthesis and characterization of ^{13}C labeled carnosine derivatives for isotope dilution mass spectrometry measurements in biological matrices"
Talanta 235 (2021) 122742
IF: 5.3

10. Giorgia Careccia, Marielle Saclier, Mario Tirone, Elena Ruggieri, Elisa Principi, Lizzia Raffaghello, Silvia Torchio, Deborah Recchia, Monica Canepari, Andrea Gorzanelli, Michele Ferrara, Patrizia Castellani, Anna Rubartelli, Patrizia Rovere-Querini, Maura Casalgrandi, Alessandro Preti, Isabella Lorenzetti, Claudio Bruno, Roberto Bottinelli, Silvia Brunelli, Stefano Carlo Previtali, Marco Emilio Bianchi, **Graziella Messina** and Emilie Vénéreau.
"Rebalancing expression of HMGB1 redox isoforms to counteract muscular dystrophy"
Sci Transl Med 2021 Jun 2;13(596) doi: 10.1126/scitranslmed.aay8416.

IF: 16.3

11. Debora Libetti, Andrea Bernardini, Sarah Sertic, **Graziella Messina**, Diletta Dolfini and Roberto Mantovani "The Switch from NF-YAl to NF-YAs Isoform Impairs Myotubes Formation" *Cells* 2020, 9, 789; doi:10.3390/cells903078

IF: 5.65

12. Marielle Saclier, Michela Lapi, Chiara Bonfanti, Giuliana Rossi, Stefania Antonini and **Graziella Messina**
"The Transcription Factor Nfix Requires RhoA-ROCK1 Dependent Phagocytosis to Mediate Macrophage Skewing during Skeletal Muscle Regeneration" *Cells* 2020, 9, 708; doi:10.3390/cells9030708

IF: 5.65

13. Marielle Saclier, Chiara Bonfanti, Stefania Antonini, Giuseppe Angelini, Giada Mura, Federica Zanaglio, Valentina Taglietti, Vanina Romanello, Marco Sandri, Chiara Tonelli, Katia Petroni, Marco Cassano and **Graziella Messina**
"Nutritional intervention with cyanidin hinders the progression of muscular dystrophy"
Cell Death and Disease (2020) 11:127
https://doi.org/10.1038/s41419-020-2332-4
IF: 6.2

14. Elisabetta Gazzerro, Serena Baratto, Stefania Assereto, Simona Baldassari, Chiar Panicucci, Lizzia Raffaghello, Paolo Scudieri, Davide De Battista, Chiara Fiorillo, Stefano Volp Linda Chaabane, Mauro Malnati, **Graziella Messina**, Santina Bruzzone, Elisabetta Traggia Fabio Grassi, Carlo Minetti, and Claudio Bruno
"The Danger Signal Extracellular ATP Is Involved in the Immunomediated Damage of □-Sarcoglycan Deficient Muscular Dystrophy"
Am J Pathol 2019, 189: 354 https://doi.org/10.1016/j.ajpath.2018.10.008
IF: 4.07

15. Libetti D., Bernardini A., Chiaramonte M.L., Gnesutta N., Messina G., Dolfini D. and R. Mantovani. "NF-YA enters cells through cell penetrating peptides"
Biochim Biophys Acta Mol Cell Res. 2019 Oct 6 doi: 10.1016/j.bbamcr.2018.10.004
IF: 4.65

16. Piper Michael, Gronostajski Richard and **Graziella Messina**
"Nuclear Factor One X in Development and Disease"
Trends in Cell Biology, 2019 https://doi.org/10.1016/j.tcb.2018.09.003
IF: 13.5

17. Valentina Taglietti, Giuseppe Angelini, Giada Mura, Chiara Bonfanti, Enrico Caruso, Stefania Monteverde, Gilles Le Carrou, Shahragim Tajbakhsh, Frédéric Relaix and **Graziella Messina**
"RhoA and ERK signalling regulate the expression of the myogenic transcription factor Nfix"
Development, 2018 http://dev.biologists.org/lookup/doi/10.1242/dev.163956
IF: 5.4

18. Eyemen Kheir, Gabriella Cusella, **Graziella Messina**, Giulio Cossu and Stefano Biressi
"Reporter-Based Isolation of Developmental Myogenic Progenitors"
Frontiers in Physiology, 2018, 9:352
IF: 4.13

19. Pavithra S., Lionel O. Mavoungou, Flavio Ronzoni, Joanna Zemla, Emanuel, Schmid-Siegert, Stefania Antonini, Laurence A. Neff, Olivier M. Dorchies, Marisa, Jaconi, Malgorzata Lekka, **Graziella Messina** and Nicolas Mermod
"Autologous cell therapy approach for Duchenne muscular dystrophy using PiggyBac transposons and mesoangioblasts"
Molecular Therapy, 2018, February 2. https://doi.org/10.1016/j.ymthe.2018.01.021
IF: 6.68

20. Mario Tirone, Ngoc Lan Tran, Chiara Ceriotti, Andrea Gorzanelli, Monica Canepari, Roberto Bottinelli, Angela Raucci, Stefania Di Maggio, César Santiago, Mario Mellado, Marielle Saclier, Stéphanie François, Giorgia Careccia, Mingzhu He, Francesco De Marchis, Valentina Conti; Sabrina Ben Larbi, Sylvain Cuvellier, Maura Casalgrandi, Alessandro Preti, Bénédicte Chazaud, Yousef Al-Abed, **Graziella Messina**, Giovanni Sitia, Silvia Brunelli, Marco Emilio Bianchi and Emilie Vénéreau "High Mobility Group Box 1 orchestrates 1 tissue regeneration via CXCR4"
Journal of Experimental Medicine, 2018 https://doi.org/10.1084/jem.20160217
IF: 11.9

21. Sabrina Ben Larbi, Sylvain Cuvellier, Maura Casalgrandi, Alessandro Preti, Bénédicte Chazaud, Yousef Al-Abed, **Graziella Messina**, Giovanni Sitia, Silvia Brunelli, Marco Emilio Bianchi and Emilie Vénéreau.
"High Mobility Group Box 1 orchestrates 1 tissue regeneration via CXCR4"

Journal of Experimental Medicine, 2018 https://doi.org/10.1084/jem.20160217
IF: 11.9
22.
Sara Benedetti, Narumi Uno, Hidetoshi Hoshiya, Martina Ragazzi, Giulia Ferrari, Yasuhiro Kazuk, Louise Anne Moyle, Rossana Tonlorenzi, Angelo Lombardo, Soraya Chaouch, Vincent Mouly, Marc Moore, Linda Popplewell, Kanako Kazuki, Motonobu Katoh, Luigi Naldini, George Dickson, **Graziella Messina***, Mitsuo Oshimura*, Giulio Cossu* and Francesco Saverio Tedesco* *senior authors
"Reversible Immortalisation Enables Genetic Correction of Human Muscle Progenitors and Engineering of Next-Generation HumanArtificial Chromosomes for Duchenne Muscular Dystrophy"
EMBO Molecular Medicine, 2018 https://doi.org/10.15252/emmm.201607284 |
IF: 7.8
23. Giuliana Rossi, Valentina Taglietti and **Graziella Messina** "Targeting Nfix to fix Muscular Dystrophies" *Cell Stress*, 2017 Dec 12;2(1):17-19. doi: 10.15698/cst2018.01.121.

24. Giuliana Rossi, Stefania Antonini, Mattia Bastoni, Chiara Bonfanti, Stefania Monteverde, Anna Innocenzi, Marielle Saclier, Valentina Taglietti and **Graziella Messina**
"Silencing Nfix rescues Muscular Dystrophy by delaying muscle regeneration"
Nature Communications, 2017 Oct 20; 8 (1) https://doi.org/10.1038/s41467-017-01098-y |
IF: 12.742
25. Rossana Tonlorenzi, Giuliana Rossi and **Graziella Messina**
"Isolation and Characterization of Vessel-Associated Stem/Progenitor Cells from Skeletal Muscle" https://doi.org/10.1007/978-1-4939-6771-1_8,
Methods in Molecular Biology, 2017;1556:149-177
IF:
26. Valentina Taglietti, Giovanni Maroli, Solei Cermenati, Stefania Monteverde, Andrea Ferrante, Giulio Cossu, Monica Beltrame and **Graziella Messina**
"Nfix induces a switch in Sox6 transcriptional activity to regulate MyHC-I expression in fetal muscle
Cell Reports, 2016 17, 2354–2366. http://dx.doi.org/10.1016/j.celrep.2016.10.082
IF: 8.8
27. Giuliana Rossi, Stefania Antonini, Chiara Bonfanti, Stefania Monteverde, Shahragim Tajbakhsh, Giulio Cossu, **Graziella Messina**
"Nfix regulates temporal progression of muscle regeneration through modulation of Myostatin expression"
Cell Reports, 2016 Mar 8; 14: 2238-2249.
http://dx.doi.org/10.1016/j.celrep.2016.02.014
IF: 8.8
28. Bonfanti C, Rossi G, Tedesco FS, Giannotta M, Benedetti S, Tonlorenzi R, Antonini S, Marazzi G, Dejana E, Sassoon D, Cossu G, **Messina** G.
"PW1/Peg3 expression regulates key properties that determine mesoangioblast stem cell competence"
Nature Communications, 2015 Mar 9;6:6364 http://dx.doi.org/10.1038/ncomms7364
IF: 12.742
29. Rossi G, **Messina G.**
"Comparative myogenesis in teleosts and mammals"
CMLS, 2014 Aug;71(16):3081-99. http://dx.doi.org/10.1007/s00018-014-1604-5
IF: 5.615
30.
Alessandra Alteri, Francesca De Vito, **Graziella Messina**, Monica Pompili, Attilio Calconi, Paolo Visca, Marcella Mottolese, Carlo Presutti, and Milena Grossi
"Cyclin D1 is a major target of miR-206 in cell differentiation and transformation"
Cell Cycle, 2013 Oct 8; 12(24)
IF: 5.321
31. Pistocchi A., Fazio G., Cereda A., Ferrari L., Bettini L.R., **Messina G.,** Cotelli F., Biondi A.,Selicorni A. and Massa V. "Cornelia de Lange Syndrome: NIPBL Haploinsufficiency Downregulates Canonical Wnt Pathway in Zebrafish Embryos and Patients Fibroblasts"
Cell Death and Disease, 2013 Oct 17; 4
IF: 6.044
32. Scavone, D. Capilupo, N. Mazzocchi, A. Crespi, S. Zoia, G. Campostrini, A. Bucchi, R. Milanesi, M. Baruscotti,, S. Benedetti, S. Antonini, **G. Messina**, D. DiFrancesco and A. Barbuti
"Embryonic Stem Cell–Derived CD166+ Precursors Develop into Fully Functional Sinoatrial-Like Cells"
Circulation Research, 2013 Aug 2;113(4):389-98.
http://dx.doi.org/10.1161/CIRCRESAHA.113.301283

IF: 11.861
33. O. Cappellari, S. Benedetti, A. Innocenzi, F.S.Tedesco, A. Moreno-Fortuny, G. Ugarte, M.G. Lampugnani, **G. Messina** and G. Cossu
"Dll4 and PDGF-BB reprogram committed skeletal myoblasts to pericytes without erasing myogenic memory"
Developmental Cell, 2013, (24)1–14. http://dx.doi.org/10.1016/j.devcel.2013.01.02
IF: 12.861
34. Pistocchi, G. Gaudenzi, E. Foglia, S. Monteverde, A. Moreno-Fortuny, A. Pianca[1], G. Cossu, F. Cotelli and **G. Messina**
"Conserved and divergent functions of Nfix in skeletal muscle development during vertebrate evolution"
Development 2013, (140), 1528-1536; http://dx.doi.org/10.1242/dev.097626
IF: 6.208
35. Tedesco F S, Hoshiya H, D'Antona G, Gerli M F M, **Messina G**, Antonini S, Tonlorenzi R, Benedetti S, Berghella L, Torrente Y, Kazuki Y, Bottinelli R, Oshimura M and Cossu G.
"Stem cell-mediated transfer of human artificial chromosome ameliorates muscular dystrophy".
Sci Transl Med 2011 Aug 17;3(96). http://dx.doi.org/10.1126/scitranslmed.3002342
IF: 10.757
36. S. Crippa, M. Cassano, **G. Messina**, D. Galli, B. G. Galvez, T. Curk, C. Altomare, F. Ronzoni, J. Toelen, R. Gijsbers, Z. Debyser, S. Janssens, B. Zupan, A. Zaza, G. Cossu, and M. Sampaolesi.
"miR669a and miR669q prevent skeletal muscle differentiation in postnatal cardiac progenitors"
J Cell Biol 2011 Vol. 193 No. 7 1197–121
IF: 10.264
37. Innocenzi A, Latella L, **Messina G,** Simonatto M, Marullo F, Berghella L, Poizat C, Shu CW, Wang JY, Puri PL, Cossu G.
"An evolutionarily acquired genotoxic response discriminates MyoD from Myf5, and differentially regulates hypaxial and epaxial myogenesis."
EMBO Rep. 2011 Jan 7.
IF: 7.355
38. Magli A, Angelelli C, Ganassi M, Baruffaldi F, Matafora V, Battini R, Bachi A, **Messina G,** Rustighi A, Del Sal G, Ferrari S, Molinari S.
"Proline isomerase PIN1 represses terminal differentiation and myocyte enhancer factor 2C function in skeletal muscle cells"
J Biol Chem. 2010 Nov 5; 285(45):34518-27.
IF: 5.328
39. J Dı´az-Manera, T Touvier, A Dellavalle, R Tonlorenzi, FS Tedesco, **G Messina**, M Meregalli, C Navarro, L Perani, C Bonfanti, I Illa, Y Torrente and G Cossu .
"Partial dysferlin reconstitution by adult murine mesoangioblasts is sufficient for full functional recovery in a murine model of dysferlinopathy".
Cell Death and Disease 2010 Aug 5;1:e61**.**
IF: 5.333
40. **Messina, G**, Biressi, S, Monteverde S, Magli A, Cassano M, Perani L, Roncaglia E, Tagliafico E, Starnes L, Cambpell CE, Grossi M, Goldhamer DJ, Gronostajski RM, Cossu G. 2010
"Nfix regulates fetal specific transcription in developing skeletal muscle".
Cell 2010 140, 554-566. http://dx.doi.org/10.1016/j.cell.2010.01.027
IF: 32.401
41. Tedesco FS, Dellavalle A, Diaz-Manera J, **Messina G** and Cossu G.
"Repairing skeletal muscle: regenerative potential of skeletal muscle stem cells"
J Clin Invest. 2010;120, 11-19. http://dx.doi.org/10.1172/JCI40373.
IF: 14.152
42. Lagha M, Brunelli S, **Messina G**, Cumano A, Kume T, Relaix F and Buckingham ME.
"Pax3:Foxc2 Reciprocal Repression in the Somite Modulates Muscular versus Vascular Cell Fate Choice in Multipotent Progenitors"
Developmental Cell, 17, 2009; 892–899. http://dx.doi.org/10.1016/j.devcel.2009.10.02
IF: 13.363
43. **Messina G** and G Cossu. "The origin of embryonic and fetal myoblasts: a role of Pax3 and Pax7"
Genes & Development 2009; 23:902–905 http://dx.doi.org/10.1101/gad.1797009.
IF: 12.075
44. Hoshiya H, Kazuki Y, Abe S, Takiguchi M, Kajitani N, Watanabe Y, Yoshino T, Shirayoshi Y, Higaki K**, Messina G**, Cossu G, Oshimura M.

"A highly Stable and Nonintegrated Human Artificial Chromosome (HAC) Containing the 2.4 M Entire Human Dystrophin Gene".
Molecular Therapy 2008 Nov 25
IF: 5.97

45. **Messina G.,** Sirabella D., Monteverde S., Galvez G.B., Tonlorenzi R., Schnapp E., DeAngelis L., Brunelli S., Relaix F., Buckingham M. and G. Cossu. "Skeletal Muscle Differentiation Of Embryonic Mesoangioblasts Requires Pax3 Activity"
Stem Cells, 2008 Oct 9. http://dx.doi.org/10.1634/stemcells.2008-0503
IF: 7.741

46. Biressi S.*, **Messina G.*,** Tagliafico E., Collombat P., Monteverde S., Broccoli V., Mansouri A., Cusella-De Angelis M.G., Tajbakhsh S., Ferrari S. and G. Cossu.
"The homeobox-gene ARX is a positive regulator of embryonic myogenesis" *Cell Death* ***equally contributed**
Differentiation 2007 Oct 12. http://dx.doi.org/10.1038/sj.cdd.4402230;
IF: 7.548

47. L. Castaldi, C. Serra, F. Moretti, **G. Messina**, R. Paoletti, M. Sampaolesi, Torgovnick, M. Baiocchi, F. Padula, A. Pisaniello, M. Molinaro, G. Cossu, M. Levrero and M. Bouché. "Bisperoxiovanadium, a phospho-tyrosine phosphatase inhibitor, reprograms myogenic cells to acquire a pluripotent, circulating phenothype". *Faseb J*, 2007 July 17
IF: 7.049

48. Dellavalle, M. Sampaolesi, R.Tonlorenzi, E. Tagliafico, B. Sacchetti, L. Perani, Innocenzi A., B. G. Galvez, **G. Messina**, R. Morosetti, S. Li, G. Peretti, J. S. Chamberlain, W. E. Wright,Y. Torrente, S. Ferrari, P. Bianco, and G. Cossu. "Pericytes of human skeletal muscle are myogenic precursors distinct from satellite cells"
Nature Cell Biololgy. 2007 Mar;9(3):255-67. http://dx.doi.org/10/1038/ncb1542
IF: 17.7

49. Travaglione S*., **Messina G*.,** Fabbri A., Falzano L., Giammarioli A.M., Grossi M., Rufini S. and Fiorentini C.
"Cytotoxic necrotizing factor 1 hinders skeletal muscle differentiation in vitro by perturbing the activation/deactivation balance of Rho GTPases". ***equally contributed**
Cell Death Differentiation, 2005 Jan, 12 (1): 78-86.
http://dx.doi.org/10.1038/sj.cdd.4401522
IF: 7.152

50. **Messina G**., Blasi C., La Rocca SA, Pompili M., Calconi A. and M. Grossi. "p27Kip1 Acts Downstream of N-Cadherin-mediated Cell Adhesion to Promote Myogenesis beyond Cell CycleRegulation".
MBC, 2005 March, vol 16, 1469-1480. . http://dx.doi.org/10. 1091/mbc.E04–07–0612
IF: 6.448

Book Chapter and Participation to Editorial activity

- **Messina G**., Biressi S. and G. Cossu "Non muscle stem cells and muscle regeneration". *Chapter of "Skeletal Muscle Repair and Regeneration*". Springer Netherlands book, Sep2007, chapter 4: 65-85
- Curatore della traduzione in italiano del libro di Biologia dello sviluppo di Wolpert, Tickle, Martinez Arias, edito da Zanichelli (seconda edizione italiana- Giugno 2017)

Awards

2006 **Honorary Mention**- Postdoctoral Category –Best poster competition, for the best work from the Society for Muscle Biology- Frontiers in Myogenesis – Callaway Garden, Georgia, USA

2000 **Fellowship from the Pasteur Institute**-Cenci Bolognetti Foundation, for a research project developed in the Prof. Franco Tatò laboratory (Virology Unit)

Member of the boarding School of PhD in Molecular Biology of the Cell - University of Milan.

Teaching

2014- present: *Developmental Biology* course for the Bachelor degree in Biology; *Cell Differentiation and Cell Therapies* course for the Master degree in Biologia Applicata alla Ricerca Biomedica; *Cellular and Animal Biotechnology* course for the Bachelor degree in Biotechnology. **Total hours of teaching: 128 hours(16 CFU)**

2008-2014: *Cytology/Histology* (practice observations and exercises) and *Developmental Biology* courses for the Bachelor's degree in Biology at the University of Milan (Italy); *Cell Differentiation and Cell Therapies* course for the Master's degree in Biologia Applicata alla Ricerca Biomedica: **Total hours of teaching: 64 (8 CFU)**

2000-2008: Lectures in the course of Virology at the University of Rome (Italy)

Institutional Assignment

1. January the 1st, 2018- present
President of the Animal Welfare Body of the University of Milan (**Organismo Preposto al Benessere Animale, OPBA)**
2. May 27, 2014 - December 31, 2017
Responsible for the Animal welfare and care of the Departmental Animal Facilities (Organismo preposto al benessere animale, OPBA). For this purpose I attended the following courses:

Dicembre 2005, Milano Italia: Corso di Sperimentazione Animale organizzato da IACUC HSR, Milano (Italia)
-Novembre 2012, Milano Italia: Corso di Base Per Ricercatori e Personale Impegnato nella Sperimentazione Animale, organizzato dall'IZSLER (Istituto Zooprofilattico Sperimentale della Lombardia e dell'Emilia Romagna).
-Luglio 2014, Gargnano Italia: "I dibattiti aperti nella sperimentazione animale. Cosa cambia con il D.Lgs 26/2014?", organizzato dall'IZSLER (Istituto Zooprofilattico Sperimentale della Lombardia e dell'Emilia Romagna).
- 8.3.2019- 7.6.2919 Milano Corso di Perfezionamento "Benessere dell'animale di laboratorio e animal care"
Università degli Studi di Milano

3. **LERU (League of European research Universities) Rector Delegate** of the University of Milan in the working group of the Use of Animals for scientific purposes (ANIM) since December 2013.

4. **Member of the Management Committee of the School of Journalism Walter Tobagi** of the University of Milan. Responsible for the organization of courses about "how to communicate science" (since May 2017)

5. 2014- present: member of the **Departmental Giunta** as representor of the Associate Professors

Peer-reviewing activity

Manuscript Reviewer for: *Cell Death and Differentiation, Cell Death and Disease, BBA, Developmental Biology*, *Development, Nature Communications*
Grant reviewer for*: AFM-Genethon, MIUR, ANR*

Research Support

Funded grants

- **2009-2011**: three-year start-up grant **PUR 2009** from MIUR- 4.500 €. Applicant's role: PI. ID:12/01/006/62

- **2014-2018:** Ministero dell'Istruzione, Università e Ricerca - Bando Giovani Ricercatori- **FIRB Futuro in Ricerca**. "Role of the transcription factor Nfix in muscle regeneration" - 3-years project, 478,200 € Graziella Messina's role: PI
ID: RBFR10YNGH_001

- **2012-2017 ERC Starting Grant 2011**- Ideas- Role of the transcription factor Nfix in muscular dystrophies" RegeneratioNfix- - 5-years project, 1.386.945,00 € Graziella Messina's role: PI ID:

280611

- **2013-2014 Fondazione Fibrosi Cistica- FFC#5/2013**- "Vessel associated progenitor cells as a promising cell-based approach to treat Cystic Fibrosis disease"- 1-year project, 60.000€, Graziella Messina's role: PI

- **2015-2018 Ministero della salute- Finalizzata- Giovane Ricercatore 2011** "Role of HMGB1 redox forms in satellite cells bioactivities and skeletal muscle regeneration" 3-years project" 150.000 €, Graziella Messina's role: Partner (UO2)
  GR-2011-02351814

- **2015-2016 Fondazione Fibrosi Cistica- FFC#6/2015 – "**Evaluation of the biological and therapeutic properties of Mesoangioblasts- vessel associated progenitor cells- in the cell-based Therapy of the Cystic Fibrosis disease"- 1-year project, 60.000€, Graziella Messina's role: PI

- **2016-2019 AFM-Telethon #200002-** "Study of the multiple functions of Nfix in Muscular Dystrophies: a focus on macrophage biology"- 3-years project, 70.000€, Graziella Messina's role: PI

- **2017-2018 Fondazione Fibrosi Cistica- FFC#5/2017 – "**Dissecting the potency of human Mesoangioblasts to differentiate into CFTR-expressing epithelial cells: a step forward to an innovative cell-based therapy for Cystic Fibrosis disease" 1-year project, 30.000€, Graziella Messina's role: PI

- **2019-2021 Duchenne Parent Project-** "Drug-mediated Nfix inhibition as a new therapy for Muscular Dystrophies"- 2-years project, 20.000€, Graziella Messina's role: PI

- **2020- 2022 AFM-Telethon #23156-** "Drug repurposing of ERK inhibitors to target the transcription factor Nfix in dystrophic muscles: development of a new proof-of-concept study to hinder Muscular Dystrophies"- 3-years project- 131.000€, Graziella Messina's role: PI

-
  PNNR-MUR 2022- 2026 ***Sviluppo di terapia genica e farmaci con tecnologia a RNA CN3: National Center for Gene Therapy and Drugs based on RNA Technology – Spoke 1 Genetic Disease*** CN_00000041 3-years project- 1.252.734,84 € Graziella Messina Co-PI

Invited presentations to internationally and national established conferences

- Gordon Research Conference 2013- Myogenesis- Renaissance Tuscany Il Ciocco- July 7-12 2013- with the talk: **Nfix in skeletal muscle regeneration: slow twitching fibers, slow regeneration and slower progression of the Dystrophic phenotype**
- FASEB Meeting Skeletal Muscle Satellite and Stem Cells- July 20-25, 2014 Steamboat Springs, CO with the talk **The transcription factor Nfix regulates the proper timing of muscle regeneration and the progression of Muscular Dystrophy**
- Gordon Research Conference 2015- Myogenesis- Renaissance Tuscany Il Ciocco- June 21-26 2015- with the talk: **Driving Towards Fetal Myogenesis: Nfix Induces a Switch in Sox6 Transcriptional Activity Required for Fetal Muscle Fiber Specification**
- FASEB Meeting Skeletal Muscle Satellite and Regeneration 2016- July 24-29, 2016 Keystone- CO (USA)- with the talk: **Different approach to delay the progression of Muscular Dystrophy: Nfix silencing rescues the Dystrophic Phenotype**
- XV INTERNATIONAL CONFERENCE ON DUCHENNE AND BECKER MUSCULAR DYSTROPHY 18 – 19 February 2017 Ergife Palace Hotel, Rome- Italy- with the talk: **A different approach to delay the progression of Muscular Dystrophy: silencing Nfix slows twitching and regeneration of dystrophic muscles and rescues the pathologic phenotype**
- XVIII National Conference of the Italian association of Myology June 6-9, 2018 Genova- Italy with the talk: **The transcription factor Nfix in muscle development and muscular dystrophies**
- **FASEB Meeting** Skeletal Muscle Satellite and Regeneration **2018**- July 8-13, 2018 Steamboat Springs, CO (USA)- with the talk: *Approaches to delay the progression of Muscular Dystrophy*
- **AFM Téléthon MYOLOGY 2019** meeting- March 25-28, 2019 Bordeaux- France- with the plenary seminar: *Approaches to delay the progression of Muscular Dystrophy*
- **EMBO Meeting 2022** April 24th- 29th 2022, Gouviex, France with the talk: *The Transcription Factor Nfix in development and Disease*

Personal information

I authorize the handling of personal information in this curriculum, according to D.Lgs n. 196/03 and following modifications and Regulations EU 679/2016 (General Regulations concerning Data Protection or GRDP) and art. 7 of University Regulations concerning protection of personal information.

I authorize, according to D.lgs 14/03/2013 n. 33 concerning transparency, in case of conferment of the position and of the fellowship, the publication of this curriculum in the web site of Università degli Studi di Milano in the section “Amministrazione trasparente”, “Consulenti e collaboratori”.

Date 13/02/2024 Signature